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737

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PEDIATRICS

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New York

GEORGE CARPENTER, M.D.,
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CONTENTS

Chronic Intestinal Dyspepsia of Children — J. BRUNTON BLAIKIE, M.D.
Hemorrhagic Typhoid in a Child; Recovery — MARION MC'H. HULL, M.D.
Children's Diseases in China — MARY V. GLENTON, M.D.
The Diagnosis of Cerebro-Spinal Fever — MAX MAILHOUSE, M.D.
Society Proceedings
New York Academy of Medicine, Section on Pediatrics.
Philadelphia Pediatric Society.
Editorial
Infantile Convulsions and Excessive Fat-Diet.
Physical Education as an Investment.
Abstracts
Poisoning in an Infant from a Carbolic Dressing—Bronchial Asthma in Infants and Children—Acetonuria and Death after Anaesthesia—Two Cases of Infectious Splenic Anemia in Childhood in a Family—Gonorrheal Inflammation of the Uterine Appendages in a Girl of Three and a Half Years Detected by Bimanual Examination—Gonorrheal Salpingitis in a Child—Acute Catarrhal Otitis Media—Fluoroform in Pertussis—Hemorrhoids in Infants—Acute Articular Rheumatism in Children—Prevention of Measles and Whooping-Cough—Treatment of Lung Diseases in Children—Treatment of Scabies—Medical Treatment of Epilepsy—The Rationale of Intestinal Antisepsis—A Case of Multiple Sclerosis Following Whooping-Cough—Exopthalmos in the Newly Born—A Case of Quadruplets-Trachoma—The Physiology of Nursing—The Value of the Finding of Diphtheria Bacilli in Nurslings.
Book Reviews

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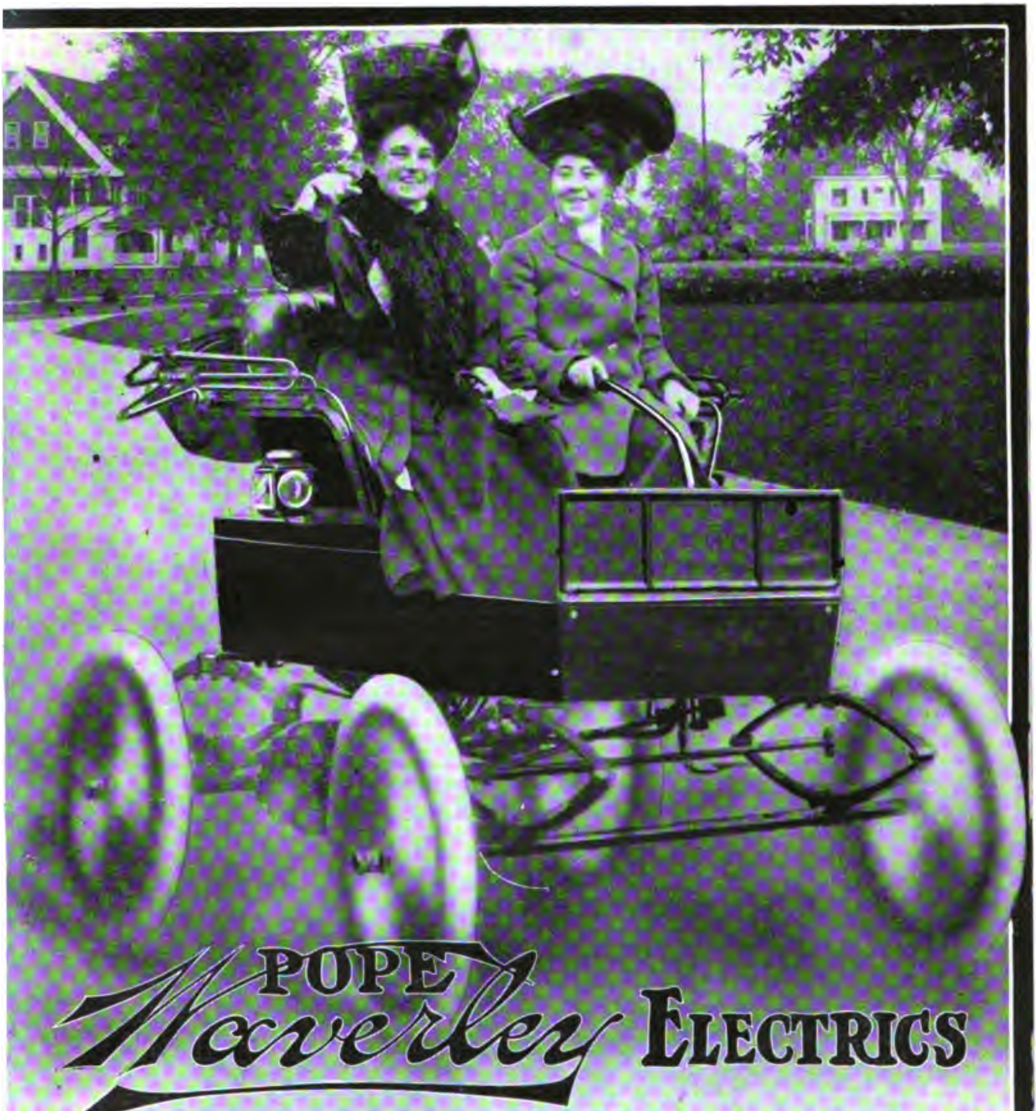

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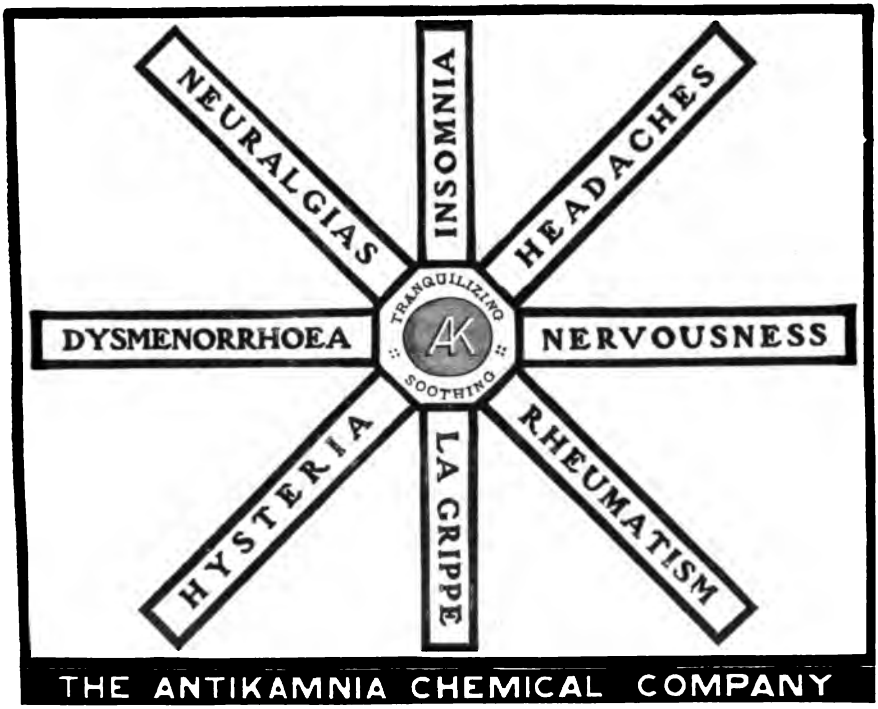

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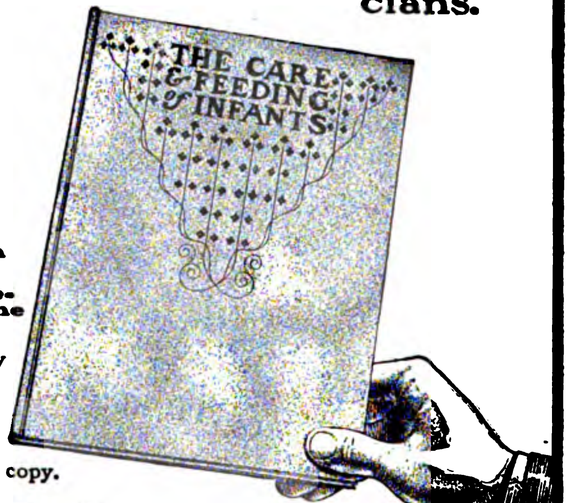
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PEDIATRICS

Vol. XVII JANUARY, 1905 No. 1

ORIGINAL ARTICLES

CHRONIC INTESTINAL DYSPEPSIA OF CHILDREN*

By J. Brunton Blaikie, M.D.,

PHYSICIAN, HOSPITAL FOR CONSUMPTION, MARGARET STREET;
CLINICAL ASSISTANT, HOSPITAL FOR SICK CHILDREN,
GREAT ORMOND STREET, LONDON

In one's work in the out-patient department of a children's hospital, one is struck by the very large number of children between the ages of four and ten who are brought to the doctor with a group of symptoms which does not fall under the heading of any of the diseases commonly described in medical text-books. On studying these cases, one finds that in a fully-developed example there is a well-marked and fairly constant symptom-complex which, in lack of a better name, I propose to call the Chronic Intestinal Dyspepsia of Children.

Before proceeding further, it may be well to describe a typical case:—

A boy, aged eight, is brought to the hospital; his mother states that he is wasting, "has no life in him," "is very nervous," "has a headache in the morning," "suffers from pains in the chest," "has a bad cough, and seems to be in consumption." When interrogated as to the duration of the illness, she states that he has always been weakly, but has been worse the last few months. On examination, we find that the child is very thin, but is not emaciated, that he has a sallow complexion, dark rings round the eyes, and anemic conjunctivæ. The chest is found to be perfectly healthy, though badly developed, on account of the presence of adenoids and enlarged tonsils. The "pains in the chest" are found really to proceed from the epigastric region. The tongue is slightly furred, and several carious teeth are present. On questioning the mother, we learn that the child is very restless at night, suffers from night terrors, and awakes tired, languid, and with frontal headache. He frequently has attacks of cramp-like pain in the epigastric region, is nervous, and cries very easily. His appetite is very poor and distinctly capricious. Some slime and a number of thread-worms have been noticed in his motions. In other words, and even more briefly, the typical case is that of a child about the period of the second dentition with the symptoms of wasting, languor, nervousness, frontal headache, epigastric pain, deranged appetite, cough, and nocturnal restlessness, accompanied by some of the other signs or symptoms already mentioned.

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* *Edinburgh Med. Journal,* Advance Sheets.

From this description it is seen that it is from symptoms much more than from signs that the clinical picture of the disease is drawn. It may, with some justice, be argued that there is no definite proof that the condition is really one of chronic intestinal dyspepsia, or, at any rate, that chronic intestinal dyspepsia is the primary factor of the disease. To some extent this objection is, unfortunately, true. At the same time it is of the utmost importance that we have some name for the disorder—a name which will enable us to have a clear mental picture of the group of symptoms, but which will not be capable of too wide an application, as would be "the marasmus of childhood"—and will not bind us to any preconceived idea as to the etiology of the condition—as do the names "lithemia," "neurasthenia," and "mucous disease."

The importance of the recognition of this condition as a definite clinical entity is very great, and this for three reasons.

In the first place, it is an exceedingly common condition. Carr,[1] in an article on "Chronic Dyspepsia in Children," in which he discusses this condition, says that "in the ordinary routine of hospital out-patient work among children of say, from 2 to 10 years of age, a very large proportion, if not the majority, of the cases, are brought for digestive disturbances or their consequences." I would go further, and say that, of the children between 3 and 12 years of age seen in the out-patient departments in London, two-thirds of them are suffering from "digestive disturbances or their consequences." Almost half of these present the typical symptoms of the condition which is now under consideration.

The second reason is that, by correctly diagnosing the disease, one can at once reassure the relatives as to the prognosis of the child's condition. The symptoms often closely resemble those of tuberculosis,—general tuberculosis, phthisis, or *tabes mesenterica*,—and the mother's fears are too frequently increased by her medical man, who may tell her either that the child is "going into a decline," or, actually, that the child has consumption.

The third, and even more urgent reason for the importance of the recognition of the condition, lies in the fact that by correctly diagnosing the disease one radically alters the treatment, and, instead of stuffing the child with food and drenching him with cod-liver oil and syrup of hypophosphites,—which both tend to aggravate his condition,—one can, by suitable dietetic and medicinal means, comparatively quickly arrest a condition which otherwise would probably continue to a greater or lesser extent for years, and, by lowering the general vitality of the patient, would render him more liable to intercurrent disease and its consequences.

In most of the standard books on medicine, little or nothing is said about the condition. Even in books devoted to the diseases of children the information is most meagre. There is, however, one notable exception, Eustace Smith,[2] in "The Wasting Diseases of Children," gives a full and very accurate description of the malady under the heading of "Mucous Disease." Another excellent account of the disease is given by Carr[1] under the title of "Chronic Dyspepsia in Children." Quite recently, too, Hutchison[3] gives a short, but at the same time comprehensive, account of the disorder. It is probably the most accurate description of the condition yet given. In most of the text-books, however, the symptoms which make up the clinical picture of the malady are each described as a separate disease, and their relationship to one another is ignored, and, consequently, the view is narrowed and the treatment recommended is mainly symptomatic. It is, to say the least of it, surprising to find that such an extremely common malady is so little recognized, and, as far as I am aware, no attempt has hitherto been made to collect a series of typical cases and to tabulate and analyze the symptoms, although it is obvious that this is the only way by which we can verify our opinions and increase our certain knowledge of the condition. I have accordingly made full notes of fifty typical cases seen at the Out-Patient Department at Great Ormond Street Children's Hospital,* and have followed their after-history for periods varying from a few months to over three years.

The fifty children of whom particulars were collected were selected as being fairly typical examples of the disease when at its worst. In considering the following statistics, we must remember that it is only with pronounced cases of the complaint that we deal, and that innumerable children have its symptoms to a lesser extent, but that, from one cause or another, it does not assume the severe form of the full-blown case which we shall consider.

I have intentionally selected only the severest cases, because one must first have studied the typical case, before one can recognize and properly treat the milder forms of the disease.

The following are the main facts elicited in the study of the fifty cases I have investigated:—

ETIOLOGY AND DURATION OF THE DISEASE.—*Parent's wages.*—In his most interesting and instructive book, "Poverty," Rowntree[4] defines "primary poverty" as that occurring in "families whose total earnings are insufficient to obtain the minimum necessaries for the maintenance of merely physical efficiency." In York, he found that primary poverty occurred, unless a family of five persons, paying a weekly rent of 4s., earned at least 21s. 8d. per week. Calculating from these figures, I found that the parents of 16 of my series of 50 children were in primary poverty. It must be stated, however, that in my figures the wages earned per week did not include moneys earned by members of the family other than the chief bread-winner. The patients' mothers, too, in order to be certain of being allowed a hospital letter, probably frequently understated their husbands' weekly wages, and that this occurred was borne out from the fact that several mothers placed their weekly income at a higher figure to me than they did to the clerk from whose books my statistics are taken. On the other hand, these figures do not take into account "secondary poverty"—that is, poverty occurring in "families whose total earnings would be sufficient for the maintenance of merely physical efficiency, were it not that some portion of it is absorbed by other expenditure, either useful or wasteful." There can be no doubt, therefore, that the parents of a consideable number of the children in my series of cases were in such a condition that they had not "sufficient for the maintenance of merely physical efficiency." It is questionable, however, if the percentage was greater than it is in the general population. Rowntree found in York that 27.28 per cent. of the total population were living in primary or secondary poverty, and Booth[6] estimated the percentage in London at 30.7. He also considers that "other cities, if similarly tested, would show a percentage of poverty not differing greatly from that existing in London."

---

* One case was seen at the West London Hospital, and one at the Margaret Street Hospital for Consumption.

That such poverty has a detrimental effect on the physical condition of the children who suffer from it, stands to reason, and if proof of it were wanted, it is admirably supplied by Rowntree in Chapter V. of his book, in which, by actual weights, measurements, and statistics, he shows how much poorer are the development and prospect of life of children suffering from "poverty" than of children with sufficient and proper nourishment. On the other hand, that chronic intestinal dyspepsia of children is by no means limited to the poor, can be at once affirmed by any practitioner attending the poor or middle classes, who can recognize the symptoms of the disease. Parents whose means will allow of it are apt to indulge their children in many ways that may predispose them to the disease, and this the poverty of the poorer classes forbids.

In my cases* the wages earned were as follows:—

Class A.	(four to six of a family)*	less than 18s.	per	week,	1
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" C.	" "	21s. to 30s.	"	"	27
" D.	" "	over 30s.	"	"	4

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* Particulars were not obtained in all fifty cases.

The condition as to room accommodation in my series of cases was as follows:—

In two cases there was less than 1 person to each room.
In four cases there was 1 person to each room.
In twelve cases there were more than 1 person and less than 2 to each room.
In nine cases there were 2 persons to each room.
In seven cases there were more than 2 persons and less than 3 to each room.
In four cases there were 3 persons to each room.
In three cases there more than 3** persons to each room.

There was no apparent relationship between over-crowding and the presence of adenoids and enlarged tonsils, night terrors, or morning headaches.

In regard to locality, as was only to be expected, the great majority of the cases came from London and its suburbs. Four, however, were country children; and one of these came from Haslemere, in Surrey—a locality accounted to be the healthiest in the southeast of England.

In order to find if chronic intestinal dyspepsia were more frequent in town than in country children, as well as to contrast the two classes generally, I have begun an examination of a large number of cases from both areas, but the investigation is not sufficiently advanced to allow of its incorporation in the present work. It would seem, however, that the disease is fairly common in children living in the heart of the country, and probably it will be found that the question of town or country life has little influence in its causation. At the same time, there can be little doubt that the stimulating objective life of the town exaggerates the nervous phenomena of the disease; and that this combined influence tends to produce the person "stunted, narrow-chested, easily wearied; yet voluble, excitable, with little ballast, stamina, or endurance,"[6] who is so typical of the lower-class town life of to-day.

Race.—In my series of cases several nationalities were represented. Their relative frequency probably fairly accurately

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* If the entire family numbered less than four, a certain sum was added to the weekly income for each person less than that number, and the converse was done if the family exceeded six.

** In one of these instances, two of the cases—brother and sister—were members of a family of seven living in two rooms. In the other instance, a family of four lived in one room, represents the percentage of their ordinary incidence in all cases coming for advice to Great Ormond Street Hospital.

Town and country life of ancestors.—According to Cantlie,[7] a third generation of pure Londoners of the lowest classes is almost unknown. Other observers have made a similar statement. Of the twenty-six cases whose parentage I investigated, nineteen were pure English to the third generation, and of these nineteen cases, two were certainly, and three—or possibly four—others were probably Londoners to the third generation. Considering the enormous influx of the country population into London in the last fifty years, and the amount of intermarriage that must take place between the newcomers and the Londoners by birth, the number of children in the above figures, all of whose parents and grandparents were Londoners, does not appear small. It might be argued that there is a great predisposition to chronic intestinal dyspepsia of children in the effete London stock, and certainly, if Cantlie's conclusions are correct, the number of Londoners to the third generation in my cases is very high; without further investigation, however, no definite conclusion can be arrived at.

Family history.—It is unfortunate that, with the time at one's disposal, it was impossible to inquire into each family history with that degree of detail without which information would be of little use. What one would have liked especially to ascertain was whether there was a neurotic taint in the history of the children's forebears. From the few facts obtained, it seems likely that this is so, but not enough information was got to allow of any definite conclusion. A tuberculous history was given in some cases, but probably not in more than one would get in the ordinary community. There were no facts elicited which would show that the disease occurs especially in families with a gouty history.

That the disease affects special families is certain. Three families had two representatives each included in my fifty cases, and in at least three of the other cases another member of the same family had been treated by me for the same disease, though it was present in a less pronounced degree.

This family incidence is almost certainly due to at least two, or possibly all three, of the causes—hereditary predisposition, diet, and improper hygienic surroundings. I have been unable to get cases suitable to supply the answer to the question as to which of these factors is the chief cause of the family incidence of the disease. The answer, however, should not be difficult to arrive at, and, when got, would solve to a great extent the etiology of the malady—it would tell us whether the main factor in causing the disease was hereditary and irremediable, or was due to causes which increased dietetic and hygienic knowledge might remove.

Diathesis.—Amongst the children all types were seen. Several had the pleasing features, the fine complexion, and the long silky hair and eyelashes of the fine tuberculous type; others again had the large teeth and the coloring of the typically rheumatic child. The diathesis was generally masked, to some extent, by the signs of the disease.

School.—It is noticeable that the period of life at which the disease occurs corresponds fairly closely with the period when the child attends school. Some forms of headaches and night-terrors are no doubt exaggerated by school-work, and the misguided efforts of so-called education of the ordinary Board school, by which for many hours every day the child's brain is crammed with undigested facts, whilst his physical education is neglected or ignored, prevent, for many months in the year, a sufficiency of physical exercise from being obtained.

Inattention of the bowels, and consequent constipation, might be an etiological factor. Constipation was not very frequently present in my cases, and even when observed, was more probably a symptom than a cause.

A typical diet is the following:—

7.30 A.M.—Tea, bread and jam, occasionally dripping.
11 A.M.—Bread and butter.
1 P.M.—A little butcher meat, potatoes, bread, currant or suet pudding; water; occasionally milk or tea.
5 P.M.—Tea, bread and jam.
7 P.M.—Bread and butter or jam.

Taking the results as a whole, it may be said that in probably every case the staple of life is white bread; the usual drink is tea, which is generally given at least twice a day. The amount of carbohydrates in the diet far exceeds that of nitrogenous substances and of fats. The four principal carbohydrate foods are—(1) Bread, (2) sugar, (3) potatoes, (4) milk puddings, such as sago and tapioca. A few centuries ago the poorer classes had neither sago, tapioca, sugar, nor potatoes, and their bread was coarse and brown, and so contained much less assimilable starch than does the fine white bread of the present day. Even fifty years ago most of the carbohydrate foods were much dearer, and, consequently, less excessively partaken of.

We thus see that this great preponderance of sugar and starch in the diet is only of comparatively recent date, and it appears highly probable from these grounds that this may be a strong factor in the digestive disturbance. This supposition receives strong confirmation from the beneficial results, in the treatment of these cases, of limiting the ingestion of carbohydrates. Another fact, which strikes one on considering the diet of these children, is the absence of indigestible residue; to this, probably to a great extent, is due the constipation that is occasionally met with.

Bad teeth.—As we shall see, the great majority of the cases have carious teeth, and the septic matter discharged from these may probably, when swallowed, be a cause predisposing to the disease. The rapidity with which, in some cases, the food was eaten, may be a factor in the causation, as well as a symptom of the disease.

Second dentition.—That the disease occurs just at the period of second dentition is suggestive, and this may be of considerable etiological importance.

Sex.—Of the fifty children, thirty-four were boys, and sixteen girls. Though this, perhaps, is a rather larger proportion of boys that really occurs in the disease, there is no doubt that it is commoner in the male sex.

Age.—The age incidence was as follows:—

Age (last birthday)—	3,	4,	5,	6,	7,	8,	9,	10,	11,	12.
Cases...............	3,	4,	6,	7,	7,	10,	4,	3,	4,	2.

From these figures we see that three-fifths of the cases were between the ages of 5 and 8. At Great Ormond Street no children are allowed to attend who are more than 12 years old. From the way in which the cases diminish before the age of 12, however, as well as from experience of the out-patient departments of general hospitals, one may conclude that comparatively few cases occur after that age. As the figures show, it is rare to find cases before the age of 4.

DURATION OF THE DISEASE AND PREVIOUS ILLNESSES.—It was practically impossible to get any very definite information as to the duration of the disease, as its onset is so insidious, and the parents usually stated that it had lasted "for years," or that the child had "never been very strong," and in the majority of cases no definite onset had been noticed. In four cases the disease was said to have begun after measles, and in two it was first noticed after whooping-cough. The small number of cases in which the mothers ascribed the origin to whooping-cough is of interest in view of Eustace Smith's statement[2] that "whooping-cough is, however, of all the diseases the one to which this derangement can most commonly be traced." A considerable number of mothers, however, said that their children had been worse since some exanthema—generally measles, though whooping-cough came next in order of frequency.

Because of the close analogy between chronic intestinal dyspepsia and rickets, it would have been interesting to have found how many of the fifty cases of the former had suffered from the latter disease. Owing, however, to the indefinite demarcation from the normal of the milder forms of rickets, statistics would be of little use. Few of the children showed obvious signs of former rickets. Three of the mothers volunteered the statement that their children had suffered from "consumptive bowels"—i.e., diarrhea and vomiting—in infancy. Four cases were said to have had pneumonia, and one rheumatic fever. In six cases the previous health was said to have been good. In each case the severity of the disease fluctuates greatly from time to time, and after a change of air, or an acute attack of vomiting and diarrhea, the child may appear comparatively well. One finds that there is a distinct seasonal variation in the severity of the symptoms; the patients are generally worse in the early part of the year—January to May.

Before leaving the subject of the etiology of the disease, it will be well to state the conclusions arrived at by other observers. Eustace Smith[2] considers the disease is very frequently the result of whooping-cough, and also of measles. Hutchison[8] lays great stress on the excessive ingestion of carbohydrates. Carr considers the three most important etiological factors to be hereditary digestive weakness, town and indoor life, and improper feeding. Dessau[8] considers the offspring of gouty parents especially liable to the disease. He thinks[9] that over-feeding, as a rule, is the great source and origin of chronic intestinal indigestion in children. This theory can hardly be supported, for it is often in children who eat very little that one sees the best examples of the disease. Goodhart[10] considers the condition "the expression of a constitutional build"—that the patients are the offspring of parents whose nervous systems are feeble or diseased. Donkin[11] also "agrees with Dr. Goodhart in recognizing in them a strong neurotic relationship."

Several of the observers consider that the nervous element is the predominant factor in the disease. Although the good results of dietetic treatment are not in favor of this view, there is much in the etiology and symptomatology to support it. In my opinion it plays a very important rôle in the causation of the malady, and is second in importance only to dietetic errors, more especially to excessive carbohydrate ingestion.

Following close on these in order of importance is, I consider, the excess of brain work and diminished fresh air and physical exercise entailed by the school life of the present day. Measles or whooping-cough frequently exacerbate the condition, but probably are of little etiological importance unless combined with some of the above factors. Other causes which I think exaggerate the conditions are overcrowding, town life, bad teeth, and the second dentition.

SYMPTOMS.—*Languor.*—In every case there was a complaint of languor, though, naturally, its amount varied. Frequently the mothers noticed this as one of the most prominent symptoms, and brought their children, "because they had no life in them"; they "lay about," and could not be got out of bed in the morning. Generally this excessive lassitude is most marked in the morning, and gets less as the day advances. Combined with this is another very constant, and, at first sight, contradictory symptom:—

Excitability.—As many of the others expressed it, their children were "shocking nervous." They cry at the least thing, are afraid—often even in the daytime—to be alone, and jump at the slightest noise. They blush or grow pale at the slightest emotional disturbance. One of the most marked changes as the result of treatment, from the point of view of the child's mother, is the allaying of this excessive excitability. Children, who cried at the slightest word of reproach, will lose this nervousness and become no more easily affected than would a healthy individual. Of the series of fifty children, only one was said not to be nervous or excitable. Another practically constant symptom; and one to which, perhaps, some of the morning languor is due, is—

Nocturnal restlessness.—All except two had more or less disturbed sleep. (The mother of one of these two did not sleep in the same room, and was not very intelligent.) In thirty-eight of the cases, the child would wake up screaming, or had real night-terrors—sitting up in bed, crying with fear, and, although apparently wide awake, for some minutes being quite unconscious of its surroundings or of its mother who tries to pacify it. In thirty-one of the cases it was noted that the child ground his teeth, and the great majority of them talked in their sleep and snored. Five only were sleep-walkers. Six of the children suffered from night sweats. One had day-terrors, similar to night-terrors, but occurring in the day. One boy, who had very severe night-terrors, defecated involuntarily during them. As a rule, it is the early part of the night that the child is very restless; towards morning he generally falls into a deep, lethargic slumber, from which, occasionally, it is difficult to wake him. As we shall find later, a considerable number of the cases had large tonsils or adenoid growths. Contrary to what one might expect, these did not seem to have a very great effect in causing night-terrors.*

Constipation, on the other hand, seemed to have a definite influence on their production in some cases. In eighteen of the children the bowels were regular, and in eighteen there was more or less constipation; of the former, five were without night-terrors; of the latter, only one. Many of the mothers volunteered the statement that their children were much more restless at night when they were attending school, and that when they were kept quiet at home their rest was much less disturbed. This was much more frequently ascribed as a cause than was an excess of their digestive troubles, thus supporting the view of Henoch,[12] Steiner[13], and Wertheimber[14], rather than that of West[15] and Silbermann,[16] namely, that it is to nervous, rather than to digestive influences, that the condition must be ascribed. On the other hand, it does not follow that the digestive disturbance from which these children suffer is not the primary factor—acting by rendering their nervous equilibrium more unstable. That this is very probably the case, is seen from the facts that constipation has a distinct influence in causing the condition, and that merely by dietetic means, by diminishing the amount of the carbohydrates, the sleep of those children can frequently be rendered more placid and refreshing.

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* "Night-terror" is used here in the widest sense of the term, and includes cases not only of true nocturnus, but also those cases in which the child wakes up screaming or crying from fear, but quite realizing his surroundings.

Atkinson[17] considers that night-terrors are associated with enuresis, which he says is the result of the fright. tI was not often that the two symptoms occurred simultaneously, though the number of children who had enuresis and also had night-terrors was slightly larger than calculation would warrant.

Though not one of the most prominent symptoms, enuresis falls naturally here for consideration. Thirty children did not wet the bed, two had formerly done so, six wetted it rarely or ocasionally, and six did so frequently. In relation to their numbers, the proportion of boys and girls was practically equal—ten boys and four girls. Several children found it difficult to hold their water for any length of time during the day. The sex incidence would tend to show that phimosis had not much influence in causing these cases of enuresis.

Enuresis has been frequently ascribed to the presence of worms, and to enlarged tonsils or adenoids. The present statistics show that only the proportion of children one would mathecatically expect who suffered from enuresis also had intestinal worms. On the other hand, eleven of the fourteen children who had enuresis had also enlarged tonsils or adenoids. This figure seems to be beyond the chance of incidental error, for the number should be only 7.5.

The next and very important symptom to be considered is—

Headache.—Forty-seven of the fifty cases suffered more or less from headache. Two of the three children between 3 and 4 years old did not complain of it, the other child who was without this symptom was aged 6. In several other cases not included in these statistics, it has been noticed that it is comparatively common for the youngest children suffering from the diseases to make no complaint of this symptom. In forty-four of the forty-seven cases in which headache was complained of, it was felt in the frontal region. In one of the remaining cases it was confined to the left frontal region, in another to the temporal areas, and in the third to the right vertex. In thirteen of the cases it occurred at no special time, in eighteen it generally came on in the morning, in nine it occurred most frequently after school and in one it occurred either in the morning or after school. Three children had it most frequently in the evening, and in the remaining three cases it occurred only when the child had "bilious attacks"—exacerbations of the disease which shall be described later. It is unfortunate that time did not permit of the examination of the eyes in every case. A certain proportion of the cases were tested,—unluckily the exact numbers have not been kept,—and of these six had errors of refraction, two had hypermetropia, one astigmatism, two hypermetropia and astigmatism, and one had myopia. In three of these six cases the headache came on after school, in another it appeared in the evening. The two other children in whom the headache came on in the evening were two of the three cases in whom the headache was not frontal in character—one had headache in the temporal region and the other in the left frontal region. The child who had right vertical headache had a discharge from the right ear. Eight of the nine cases in whom the headaches came on, especially after school, were between the ages of 6 and 8—just the age when children begin to have steady hard work in their classes. Neither night-terrors, enlarged tonsils and adenoids, nor constipation appear to be the cause of the headache which occurs when the child awakes.

Cough.—Forty-eight of the children had a cough, though it was generally slight, and frequently was described as merely a "hacking," and was little more than the clearing of the throat. Sometimes, however, it was said to be "barking"—the typical "stomach cough." At the time of examination, in only one case was there any bronchitis, though in a considerable number, on auscultation, one heard an occasional rhonchus, especially on deep inspiration.

From the fact that practically all the children had cough, it would appear that enlarged tonsils or adenoids had little to do with its causation. Even when there were no large tonsils or adenoids, the pharynx was generally more or less congested, however, and it was to this cause probably that the cough in the great majority of cases was due.

Epigastric pain.—Forty-seven of the children suffered from attacks of pain in the epigastrium or right or left hypochondrium. It generally came on at no special time, in only four cases did it appear after food. Occasionally the child would wake crying with it during the night, and in some instances it was most frequent in the morning. In several cases it was said to be "just under the heart," and the mothers occasionally feared that it originated in that organ. It was frequently so severe that it caused the child to come home from school.

From the fact that the pain had generally no relation to food, and that it was frequently felt in the right or left hypochondrium, it seems likely that it originates, as Henoch[12] says, not in the stomach but in the large intestine. There was no apparent relationship between this symptom and the presence or absence of mucus in the stools, and it occurred as frequently in cases where the bowels were regular or where there was diarrhea, as where there was constipation. This observation is quite contrary to the statement made in most of the text-books on children's diseases,—namely, that colic is generally the result of fecal accumulation.

On inquiry it was found that many of the cases were very prone to have a "stitch in the side." This pain is of a different nature to the epigastric pain just described, and occurs only after exertion.

Pains in other parts of the body.—Two children complained of pains in the legs, and one of pain in the left knee. One child had slight lumbago, and one was suffering from a mild attack of "stiff neck." In no case were rheumatic nodules observed. One boy complained of numbness of the hands.

Wasting.—In every instance, without exception, the mother said her child was growing thinner. In those cases in which the illness had lasted "off and on" for years, during the remissions the child would gain a little weight, only quickly to lose it again when it had a relapse. This symptom will be further discussed when we proceed to consider the physical examination.

Appetite.—In the great majority of cases the appetite was deranged; in only four cases was it said to be ravenous. In twenty-four it was always poor, in nine always ravenous. The other cases alternated between these two extremes. There was a distinct relationship between the sex of the child and the character of the appetite. In all the female children, with the exception of two, the appetite was persistently poor. No connection seemed to exist between the amount eaten and the frequency of defecation, or the presence or absence of worms. An excess of mucus, as we shall see later, was noticed in the stools of some of the patients. When this excess was present, the appetite was generally poor. As it is known that sugar increases the amount of mucus secreted, and as it appears probable that one of the factors in the causation of chronic intestinal dyspepsia is an excessive ingestion of carbohydrates, the mothers of the patients were interrogated as to the amount of sugar and sweets their children ate. About half of the cases were stated to take a large quantity, but no relationship can be traced between the taking of an excess of sweets and any of the signs or symptoms of the disease under consideration. It must not be forgotten that even those children who take no sweets may, nevertheless, eat an excessive amount of carbohydrates, as by far the greater proportion of carbohydrates ingested is taken in the form of starch. The rapidity with which the children ate their food seemed to depend almost entirely on the character of their appetite. Whilst those with ravenous hunger would bolt their food, the others who had poor appetites did not seem to eat too quickly.

(*To be continued*)

HEMORRHAGIC TYPHOID IN A CHILD; RECOVERY

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No subject is of more interest to the practitioner of medicine than that of typhoid fever, so universal is it in its distribution over the country and so impartial in its choice of its victims. While formerly considered a disease of youth and adolescence, it has been observed in old age, and recent years have demonstrated the fact that there are a great many children who are attacked by the bacillus of Eberth, the youngest case reported being but four and one-half months of age.

It is also of interest because of the various forms that the disease assumes in different individuals, giving us the abominal type, the pneumonia type, the neurotic type, etc. Recently there came under my care a child that was suffering from a rather rare type of the affection, a history of whose case I desire to make a record both on account of the rarity of the type, and also on account of the unusual termination of the disease. The case is as follows:

J. V. D., Jr., male, four years old, the youngest child of a large family, previously in the best of health; surroundings healthful. Family history good.

On March 16 the patient was taken ill with a severe headache and abdominal pain, followed by fever and stupor. He was given some medicine to act on his liver, and on March 20, when I saw him first in the late evening, his condition was as follows: Temperature, 104°; pulse 140; respiration 24. Patient was more or less stupid, tongue was furred, dry and brown; breath fetid; chest normal; bowels had moved that day and the stools were liquid and of foul odor. There was no abdominal tenderness; no tympanites; no gurgling. Diagnosis was withheld, and he was put on liquid peptonoids, and a prescription containing calomel, salol and guaiacol carbonate.

March 21.—Temperature 102°; pulse 130; respiration normal (as they were throughout). His condition had not changed. He had passed two bloody stools, without any straining, and contained no mucus. His nose had bled during the night. In the evening of the same day the temperature was 103.5°, the tongue was black and dry; there were sordes on the teeth. There was still no tenderness, nor any tympany. The provisional diagnosis of typhoid fever was confirmed.

March 22.—No change in his condition. Turpentine in emulsion was ordered to be given every four hours, five drops at a dose.

March 23.—Patient had been very delirious since the last visit. Bowels had moved several times, but stools are of the same character. Temperature by axilla was 101.5°. Pulse weak. Ice helmet applied, and whiskey ordered. P.M.: Condition the same, except that the delirium was not quite so marked.

March 24.—Temperature 99.5°; pulse 128, better volume. There were hemorrhage spots all over the body and limbs; the gums were bleeding; the nose had bled several times in small quantities; there had been several tarry stools. The urine was highly colored, but an examination on the 25th showed no albumin, no casts, no sugar, sp. gr. 1008. In the evening the temperature was 100.5° by axilla; pulse 128. There was a conjunctival hemorrhage, involving all of the inner canthus of the right eye, and two small ones in that of the left eye.

March 25.—Temperature 98; pulse 128. Petechiae were fading; two small tarry stools. Ecchymoses everywhere that the patient was handled in turning him over; also on the parts of his body that were pressed upon by the bed. The stupor had disappeared, as had the delirium. There was great languor. Evening temperature 100°; pulse 128. There was decided hematurian.

March 26.—From this time until the 31st there were several tarry stools daily, a great deal of blood in the urine, a good deal of gas in the stools. The turpentine was discontinued and adrenalin (1-1000) was given in doses of five drops, every three hours, by mouth. In two days this was increased to ten drops every three hours. The temperature continued normal in the morning, and from 99° to 99.5° in the afternoon. The pulse varied between 128 and 136. The tongue began to get moist and to clear off on the 26th. On the 27th the patient complained of hunger. On the 28th broths were added to the dietary. On the 29th the urine was very scanty, but increased to normal after the administration of lithia water freely. On the 30th there was no blood in the stools, and they were well formed. On the 31st the urine had cleared up, and the adrenalin was discontinued. The ecchymotic spots and the conjunctival hemorrhages were gradually absorbed, and the patient made an uneventful recovery.

There are a number of things about the case that deserve to be emphasized, and a number of others that are quite characteristic of the type of typhoid that occurs in children. Let us look at these first. They are the rapid rise of temperature instead of the gradual rise, as in adults; the absence of prodromes; the shorter duration; and the increased manifestation of the nervous symptoms. All of these are shown in this case.

But the particular characteristic of the present case was the occurrence of hemorrhages in all parts of the body. Here on the fifth day of the disease there occurred two hemorrhages from the intestinal mucous membrane, which continued every day thereafter until the fourteenth day, being quite profuse most of the time. Epistaxis occurred on the fifth and on the eighth day. Hemorrhages from the mucous membranes of the mouth and into the skin began on the eighth day and continued until the fourteenth day. The conjunctival hemorrhages occurred on the eighth day, and the hematuria was first seen on the ninth day, continuing until the fifteenth.

The temperature was peculiar. Ranging from 102° to 104° until the eighth day, it then fell to 99.5°, and varied from that to normal during the second week, the fall being simultaneous with the occurrence of the hemorrhages into the skin and mucous membranes. The pulse was good, although at times it was weaker than at others.

An examination of the blood was made on the tenth day for the plasmodium, but was found to be negative. No count of the corpuscles was made, I regret to say. The corpuscles were crenated; otherwise there were no abnormalities in their microscopical appearances. The Widal test was not made.

In looking over the literature of the subject, there are very few references made to this variety of the disease at all. In fact, none of the recent textbooks on pediatrics that I have consulted refer to this affection at all. All of them mention, of course, that intestinal hemorrhage occurs in the typhoid of children, but only in a very small proportion of these cases (3 per cent., according to Holt). This variety, however, is quite rare. In the epidemic at Basle there were noted only three cases in 1900; only one has occurred at the Johns Hopkins in a series of 829 cases. Curschmann has seen but six cases. Various other observers have reported cases of renal hemorrhage in typhoid (see bibliography below); Gillette a case of hematemesis; Powell a case of hemoptysis; Blyumenau a case of hemorrhage into the larnyx; Koenig a case of profuse hemorrhage into the mucous surfaces, and Barlow a case of purpura, occurring in the course of typhoid. But the case of Koenig's seems to be the only one that could be classed with this variety. This is the only case that the writer has ever seen.

There is a good deal of doubt as to the cause of this affection. It has been assigned to overcrowding, to deficient nourishment, to scorbutic states, to alcoholism, and to the predisposition of youth and adolescence. The latter could have been the only etiologic factor in the present case. Trousseau thought that it was due to an altered state of the blood, in which the coagulability was deficient. Osler found that in the case at the Johns Hopkins above referred to the coagulation time of the blood was increased from four to ten minutes, during the time when the hemorrhages were occurring. The subject needs further study.

The results have been very unsatisfactory in treating the condition heretofore. All of Curschmann's cases died; the case that is reported from the Johns Hopkins recovered; Wagner's mortality was 66 per cent. All hemorrhages in the typhoid of children are very dangerous, the mortality varying from 20 to 50 per cent., according to different observers. We would naturally expect that this variety would be much more dangerous to these little patients therefore. From the happy result obtained in the present case, we are led to hope that in the new hemostatic, adrenalin, we may have found a remedy that will control the tendency to hemorrhage, and thus conserve the strength of the patients until they can overcome the attacks of the enemy.

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CHILDREN'S DISEASES IN CHINA*

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I spent the best part of my first two years in China finding out that the same diseases do not manifest themselves in the same way as they do at home, either in children or adults, and that the treatment that worked like a charm at home fails utterly here, while the treatment that we scarcely ever resorted to there will usually prove most efficacious here; and last, but not least, I found that we meet with and see things that we would never see at home, and to which is only given a very short space in the text-books used in the home colleges, and an equally short time in the lectures, with no clinical material. My first two years were spent in grasping the fundamentals of practice and therapeutics in China.

The safest division is, to my mind, surgical and medical, although one merges into the other to such an extent that the dividing line is hard to draw.

In the surgical cases we are all familiar with the child brought to us in the advanced stages of hip disease, sinuses galore in the region of the joint, the ankylosed knee, and the atrophied and shortened leg; the mother blandly tells us with her most condescending manner that we may take the child into the hospital if we promise to send him out cured at the end of ten days; another brings a child with a decided hump, the result of Pott's disease; you may take him in, as a very great favor, for three days, but he is to be returned perfectly well at the end of that time. Some more parents of the same order will bring a child suffering from cancrum oris or noma, the whole side of the face one great black dry mass of necrosed tissue; they will tell you, with every notion that you will believe them, that this state of things has lasted four

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*Read before the Hankow Medical Association. Abstracted from the China Medical Missionary Journal, July, 1903, by W. W. Vinnedge, M.D., LaFayette, Ind. Courtesy of *Cincinnati Lancet Clinic.*

[1] Dr. Mary V. Glenton was formerly Superintendent of the Home Hospital, LaFayette, Ind., and practiced her profession therein about three years.

days, and won't you please give them some medicine to drink that will make the child well? In all these cases you go into elaborate details as to what should and should not, could and could not be done, exhausting your own stock of Chinese and that of every one within reach at the time. The mother picks up the child with a dissatisfied grunt and walks off; at the next medical meeting you find that they have called on your neighbor in another mission hospital, and you are not at all surprised to see the same case bob up serenely at a clinical meeting across the river, and not a bit abashed at seeing you there. You wonder what there was in your neighbor's method that succeeded where yours failed. The question answers itself by your discovering that some patient is now under your charge that had gone the rounds, but this time you happened to be last instead of the first to whom the patient was presented.

When I first began to work in Wu-chang I was deeply impressed, and I am still, with the way in which serious cases of various kinds yield to patient care and treatment. I have had women and children come to the clinic with feet that cannot be described in any other way than inflamed or diseased or even putrid masses of flesh, all semblance to a human foot gone, the inflammation extending in most instances up to the knee. I have put the patient to bed, dressed and irrigated the foot twice daily, given quinine internally, and the patient has come out, with one exception, with a fairly good foot, and in the exceptional case the bones of two toes were exposed and the father refused amputation, as Chinese fathers usually do. Just about this time of year such feet as I have described come in frequently, and they all tell the same story—a scratch or abrasion on the foot, daily working in the rice fields. The negroes of the South work in the rice fields at home in their bare feet, too, and we never meet with this state of things; the water here may be dirtier, but the negro of the South will get lock-jaw on the slightest provocation. To such an extent is this true that some of our American text-books read in the etiology of tetanus: Sex, males more frequent; race, negro greater prevalency. I have formed this opinion, and I may ask some one of longer experience to correct it if it be wrong; that the bound foot and its atrophied muscles, misplaced bones and retarded circulation hasn't the power to throw off the poison carried to an abrasion, and, however slight the abrasion, the continued action of the dirty water and the lessened power of resistance in the tissues attacked bring about this state of things.

Then there are scalp abscesses that are so frequent here, and, as far as my experience goes as nurse and physician, at home they are rare as they are frequent here. Why this is so I cannot explain, and again I ask for light. The Chinese are a dirty race, but their hair and heads are much cleaner and even freer from pediculi in the coolie class than are our tenement people at home. I can only lay these abscesses to the door of infected razors, but why don't our workingmen at home develop them on the chin? Italians are not the cleanest people on earth, and in our slum districts at home, in New York at least, the Italians have the monopoly of the barber trade.

It is needless to go into the cases of dactylitis, suppurating cervical glands, and chronic abscesses generally; these we see at home, possibly as frequently, but rarely in such advanced stages and neglected condition. To pass on, as I said before, the medical and surgical merge the one into the other, as, for instance, the mucous patches that need surgical dressing, the otorrhea that takes as much time as would a satisfactory abscess; these cases have to be treated under both heads, and not always with results either speedy or satisfying.

I have had a great many cases of prolapsed rectum among children; they all come at the same time of the year, *i.e.*, at the close of the summer vacation. I sometimes have found the protruded bowel covered with thin Chinese paper which has hardened and formed a crust, but which comes off in scraps; getting this off usually gives the child a good start in the crying process, so that when I am ready to reduce the prolapsed bowel the child is screaming, bearing down, kicking, and resisting in every way possible. I have succeeded in reducing the prolapse in all cases but one; that case came to the dispensary across the city; the child was cachetic when I first saw it, and each time it came the bowel was farther out than the last. I think I saw the child four times; the first three I reduced the prolapse, but the last I simply could not. I am afraid to say how long the prolapsed portion was; it looked like yards to me. Another very stubborn case was conquered by strapping the buttocks.

One cause for this condition is, to my mind, the position assumed in defecation. At the end of the long summer, with its train of intestinal disorders, the weakened bowel can stand very little strain, the buttocks have no support ordinarily when a child moves its bowels, there may be tenesmus, and even without, prolapse follows. We have to guard against it at home in some children.

The intestinal disorders seem to belong to about the same order as they do at home, with possibly less cholera infantum and more dysentery. The children seem to come through the summer and its disorders better than do the little folks at home, in America at least, and at home even the very poorest have a better chance for life, with the help of the district physicians, district nurses and floating hospitals, etc., while here injudicious feeding, dirt and neglect all help on the disease.

Speaking of intestinal disorders brings me to intestinal parasites. It is the rule of the mission hospital in Shanghai (or it was when I was there) to give santonin and calomel to each patient on the night of admission. I have not only adopted it as a rule here, but I find it a good plan to follow a similar rule with the children in dispensary practice.

I had one child come in a year ago for tubercular glands. Her bowels refused to act after the initial dose (I gave santonin, calomel), followed by salts and castor oil galore, even resorting to a drop of croton oil on the tongue; the bowels still refused to act, and my helper, who was untrained, reported failure after two enemata. I was very busy, and it wasn't till late in the afternoon of the second day of dosing that I could find time to give an enema myself. I finally managed it, however, gave it very slowly and with intervals of rest, and to my extreme gratification (for I thought I had an obstruction) I succeeded in getting the bowels to move. A mass of squirming worms came away, over a hundred; the child was relieved from pain immediately and slept soundly. For about four days she kept passing these things, about twenty each day. I gave her santonin once a week regularly, and every week the same result—worms for three days. She left at the end of six weeks, or I should be dosing her yet, and possibly with the same result. You are all familiar with the enlarged abdomen of enlargement of the spleen, and you have all been called at some time to children in convulsions, who have been that way for six or eight days, and who would promptly go into another at the slightest touch. Some of these cases, in my experience, have recovered; in others I have never heard the result; and still others have improved, but in a day or two have fallen back under Chinese treatment.

I went through an epidemic of cerebro-spinal meningitis in Shanghai. I was called to several cases, but only knew the final result in one, and she was in the mission family; she recovered.

The disease, or symptom rather, that baffles me most is the ever-present dropsy in the slave girls. Will somebody tell me what to do for it? I find albumin and I give diuretics and heart tonics, for the heart is generally all out of order. I tap and the child fills up again in less than a week, and after that I get to where I can't tap any more. I have given steam baths and put the child to bed; the face then swells to an enormous size, being more swollen on the side on which the child lies longest; she gets up, and her face goes down. In one or two cases, when I have gotten hold of the child in time, I have sent her away improved, but in the majority of cases the child has been taken home to die, or left in the hospital to do the same thing.

I have seen very little pneumonia; in fact, practically none amongst the children here. I have had cases of capillary bronchitis, and it was in connection with this disease that I found out what a large dose of ipecac it takes to get an emetic effect on a Chinese child.

The exanthemata seem to attack Chinese children in a milder form here than at home, except possibly scarlet fever. I had a case in Shanghai that was not fatal in itself, but it caused great mortality nevertheless. An in-patient, a child, caught scarlet fever; she had found her way into the waiting-room during dispensary hours, and a case of scarlet fever was there waiting to be seen. The child was promptly isolated, but her father was informed of her condition; he came to see her, bringing with him her brother; after they had gone I found, to my horror, that the boy was a St. John's College boy. The boy was sent home before he had a chance to spread the disease through the college, and the father took the girl home to Kia-ding. She went from the hospital to the boat in a public rickshaw and from Shanghai to

Kia-ding in a public boat. The child recovered, but there were twelve deaths in the alley in which the family lived, and all the sickness dated from the child's arrival.

Speaking af Shanghai calls to mind cases that should have been brought in under the head of surgical cases. I had at one time, while I was there, seven children, babies all of them, coming for daily dressing with poisoned arms, the result of vaccination in their native city. One child had a slough shaped exactly like a clover leaf, but about three times as large as the largest clover leaf that I have ever seen. When the slough was removed there was a three-leaved hole extending down to the periosteum. This soon healed up, as did all the other cases with one exception. Amputation seemed the only hope in the exceptional case, but when I told the mother she acted like the ship they sing about. She never came back.

Skin diseases in children are about as they are in adults, running chiefly to scabies and eczema, with psoriasis for variety and the ever-present tinea of the scalp. Then we have the malaria fevers, typhoid and beri-beri, but these are not, strictly speaking, children's diseases, and any way I have seen only one case of beri-beri, and that was in Shanghai.

THE DIAGNOSIS OF CEREBRO-SPINAL FEVER

By Max Mailhouse, M. D.,

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The question of diagnosis is not an important one during the presence of an epidemic, in typical cases. Here a sudden onset with headache and vomiting followed by more or less elevation of temperature, rigidity of and pain in the neck muscles and accompanying delirium, make up a clinical picture which is sufficiently characteristic, especially when the condition soon advances to one of stupor together with hyperaesthesia of skin and deep tissues, opisthotonus, palsies of cranial nerves and of one or more limbs.

The cases of rapid course and the early individual cases of the epidemic, or the sporadic cases and also the cases of other diseases which in particular instances and at certain times may resemble cerebro-spinal fever are the ones which bring the question of diagnosis into prominence. The mild ambulant cases might scarcely be recognized at any other time than during an epidemic as they may speedily pass over into health from a history of headache, nausea, uncomfortable sensation in the back and limbs and some stiffness in the neck, with possibly slight fever. Rheumatism in the neck muscles in children as also acute otitis media may exhibit or be accomplished by such a train of symptoms.

Cerebro-spinal fever I prefer to call it in preference to spotted fever, for it is not more spotted than typhoid and in many instances much less so, and certainly less characteristically so.

In many cases the fact of there being a meningitis, cerebral or spinal or both, is recognized by the attendant but the question arises in his mind, Has he a case of the epidemic form to treat? To solve this problem of course the presence of other cases in the community either recently or within a year or two must be taken into consideration. In this type, also, the retraction of the head appears early, as also the rigidity and pain on attempted movements of the limbs. This is also soon followed by general rigidity, which is so pronounced that a single limb may often be moved in toto. The reflex irritability is great and the superficial reflexes are very active. The tâche cérébrale appears early and is common.

An early, and hence very important, diagnostic evidence, is the edge of the bed, with legs dependent, the thighs being at a Kernig's sign. This may be obtained by seating the patient on right angle to the body, when an attempt to bring the legs on a straight line with the thighs produces severe pain and becomes impossible. This symptom I have often brought out with the patient on his back when on flexing the thigh on the trunk to an angle of ninety degrees and an attempt is made to extend the leg on the thigh the same difficulty is encountered. This symptom is due to meningitis in the lumbar and sacral regions producing irritation of the motor and sensory roots and hence great reflex irritability together with pain from stretching.

Another sign of equal importance is obtained from lumbar puncture and the examination of the fluid drawn. If the characteristic diplococcus intracellularis is found the diagnosis is established. I have not yet been able to get the germ, although the fluid is frequently obtainable. Sometimes, however, even no fluid is found, though the needle is certainly within the spinal canal.

The modus operandi is simple. The needle and back of patient having been rendered sterile a line drawn through the upper iliac borders will cross the span btween the third and fourth lumbar spines. This space is preferred in children but the one next above for adults. Next the spine should be *strongly* flexed upon the pelvis, and the needle introduced just to one side of the median line, slightly cephalad and toward the median line for a distance of about one and one-half inch. This will vary according to the amount of muscular and adipose tissue and age, whether child or adult. A feeling as if resistance were suddenly removed tells one that the spinal canal has been entered. Elevating the shoulders aids the flow. About 4 c.c. may be removed with safety, and in the last stages, when symptoms of compression are present, more may be removed with advantage, and as a therapeutic measure.

A pupillary phenomenon recently described may be of considerable assistance in the making of a diagnosis. It has been described as a dilation of the pupils on forcible flexion of the head on the chest and a contraction on bringing the head back again. I have observed it in two or three cases. Its explanation appears to me to be similar to that of Kernig's sign and caused by the meningitis involving the lower cervical roots. These supply the sympathetic system with the dilators of the pupils; and we know that irritation of the neck, by pinching the skin or by the faradic brush, produces dilation. Now forcible flexion irritates these nerve roots by stretching their inflamed meningeal covering and thus the dilation is brought about.

Another characteristic symptom is the Herpes. This is marked and extensive and though usually confined to one or both lips, may also appear on other parts of the face. Other eruptive phenomena are frequently present but seldom come on until after the third day. The most common is a diffuse petechial eruption, usually on the extremities. The eruption may be erythematous or urticarial. Pemphigus may appear; a purpuric rash is rather characteristic. The onset may be accompanied by severe nasal catarrh, as described in the reports of some epidemics though I have seen none such. This might lead one to think it a case of epidemic influenza and when both epidemics are contemporaneous the distinction becomes important. Here the disassociation of pulse and temperature becomes an important phenomenon, the former, as a rule, being comparatively low in the epidemic affection under consideration.

Probably the diagnosis from tubercular meningitis must be more frequently made than from any other affection. The following points in the diagnosis should be noted:

	EPIDEMIC FORM	TUBERCULAR FORM
Onset,	Sudden,	More insidious.
Coma,	Comparatively early,	Rather late.
Spinal Symptoms,	Symptoms prominent,	Inconspicuous.
Retraction of head,	Early symptoms and rigidity,	Seldom seen.
Course,	Runs at times a rapid or acute course,	As a rule runs a more protracted course.
Skin Eruptions,	In more than half the cases; Herpes, petechial,	Rare and not herpetic or petechial.
Lumbar Puncture,	Diplococcus intracellularis,	Tubercle bacilli.
Kernig's sign,	More likely and early owing to spinal involvement,	Late if at all.
General hyperaesthesia of skin,	Prominent,	Not prominent,

Cranial nerve palsies,	In protracted cases,	More commonly has *palsies of ocular* and peripheral muscles, hemiplegia and aphasia. *Tuberculosis* of other organs.
Optic neuritis,	Not uncommon after four or five days,	Occurs late if at all.
Pulse ratio,	To temperature often less than normal,	
	Deafness,	*Grinding of teeth.* *Hydrocephalic cry.* *Tubercles in choroid* as late symptoms.

With regard to other affections which during an epidemic might erroneously be considered examples of this disease:

(1) Typhoid fever is rather characterized by its slow development, characteristic chart *(i.e.,* lower in morning than evening, while in cerebro-spinal fever it may be lower in the evening or more or less constant), tympanites and distended abdomen, rose spots and eruption by preference on chest and abdomen, and Widal reaction. In those cases of typhoid which begin with symptoms of cerebro-spinal irritation, the meningeal symptoms and headache in particular subside as the disease progresses; there is an absence of herpes and no rigidity of abdominal and spinal muscles and muscles of extremities. Kernig's sign does not appear and lumbar puncture gives no characteristic coccus. I once treated a sporadic case in which early rigidity of the neck muscles together with headache and stupor led me to diagnose cerebro-spinal meningitis. An amelioration of the symptoms caused me to doubt the diagnosis and consider the probability of its being typhoid. However, the later absence of Widal reaction, the presence of Kernig's sign, the later appearance of herpes and the progress of the case confirmed the original diagnosis.

(2) That anemic pneumonia may simulate the disease under discussion is evidenced by a case recently seen in consultation. The boy, aged twelve, was seized with headache and vomited in the evening (after a purgative). The next day convulsions set in, at first tonic and then some clonic convulsions. When seen by me he was in a stupor with more or less rigidity and more marked on one side of the body than on the other. The elevated temperature may have been the result of the convulsive movements. The pupils, which were very small, were no doubt affected by the

morphine—one-half grain given to arrest spasm. This case, occurring during the prevalence of other cases reported, looked very like to one of that class. Kernig's sign was absent, however, and an examination of the urine drawn by catheter revealed a decidedly smoky color and considerable albumen. Investigation developed the fact that the patient had a sore throat two weeks previously and a history of diphtheria when an infant. Although the presence of vomiting, convulsion, marked and general rigidity, point toward cerebro-spinal fever, the absence of herpes, hyperaesthesia, Kernig's sign, and the presence of albumen and tube casts, should clear up the diagnosis.

(3) Smallpox has simulated cerebro-spinal meningitis and failed of an early investigation by experts, but the continued absence of muscular rigidity and pains in the neck and spinal muscles and absence of palsies and Kernig's sign, should suffice to exclude it. Poliomyelitis may occur in epidemic form, and should be thought of in typical cases.

I have seen intermittent fever in a child of eight, with herpes on lips and crying, "Oh! my head, my head!" which might have been called, during an epidemic, cerebro-spinal meningitis.

At this season of the year malarial affections are also prevalent and error should be guarded against.

Tetanus may be and, indeed, has been, confounded with this disease, as has also alcoholic delirium.

SOCIETY PROCEEDINGS

NEW YORK ACADEMY OF MEDICINE

SECTION ON PEDIATRICS.

Stated Meeting, Held October 13, 1904.

DR. DAVID BOVAIRD, JR., in the Chair.

SCLEREMA NEONATORUM.—This case, presented by Dr. Sara Welt-Kakels, was a boy aged seven and one-half weeks. He had been brought to the Mount Sinai Dispensary about the middle of September, when his history was given as follows: The father had been troubled with a stomach affection for some fourteen years, but had worked at his trade of painting, and the mother was healthy. The patient was one of seven children, three of whom had died in infancy from lung trouble, the remaining three being healthy. There had been one miscarriage five years before. For three months before patient's birth the mother had not felt well, her feet were swollen and she moved about with difficulty. Her confinement lasted thirty-six hours and the delivery was instrumental, the child being asphyxiated, and not crying for forty-five minutes. It had a tumor on its neck, was restless and cried if handled. It was breast fed; it vomited much and was somewhat constipated. Two days before bringing the child to the dispensary the mother noticed that the skin of the neck and upper arm was hardened. Upon examination the skin was found to be indurated upon the whole of the back, on the shoulders, sides of the chest and front of both femurs. Coextensive with this induration was a reddish brown discoloration of the skin, which was inelastic. Pressure did not produce pitting. The joints were movable, thoracic and abdominal organs normal. On the right side of the neck a tumor, somewhat tense to touch and movable, was found. No pain resulted from pressure. The tumor was probably embryonic in origin, due to cystic dilatation of a bronchial fissure obliterated at both ends. Dr. Welt-Kakels said that sclerema neonatorum is most observed in children whose heart action is weak, or who are asphyxiated and premature. The patient in question was born at full term, however. Bad hygienic surroundings favored the occurrence of the disease, and it frequently occurred in foundling homes. It is not common in America. One noteworthy feature of the present case was that, whereas a subnormal temperature is ordinarily reported, this patient's temperature, when first observed, was 101° F. He was under treatment, chiefly by hot baths, and seemed to be improving.

Dr. W. P. Northrup said that his experience included only one case of scleredema of the new-born, seen many years since at the New York Foundling Asylum. This case resulted fatally. The temperature was lower than any obtainable thermometer could register, and the hardening of the skin spread from the cheeks over the neck, shoulders, and finally the entire body, the child becoming cold and stiff. Every possible application of artificial heat failed to raise the body temperature in the slightest degree. Microscopic examination of tissue from various parts of the body after death gave only negative results.

First and Second Dentition Periods: Influence on Epilepsy.—This subject was discussed in a paper by Dr. W. P. Spratling, Superintendent of the Craig Colony for Epileptics, Sonyea, N. Y. He believed that the convulsions of infancy should never be regarded as harmless. Although many of them both began and ended as benign, many others beginning so ended in established epilepsy. A study of the etiology of the disease in some 2000 cases, extending over ten years' experience at Craig Colony, had established this conviction in his mind. The fact that convulsions appearing in conjunction with the dentition periods frequently disappeared entirely for a long space of time does not warrant any security that they will not reappear whenever some time of physiological stress arrives, as the epoch of puberty. The convulsive tendency in the child has been evidenced, and should be recognized, as keeping him from convulsions decreases the danger of later epilepsy.

Dr. Spratling also presented several charts, giving statistics compiled at Craig Colony. The first chart showed the age, in years, at which epilepsy had developed in 1215 cases. These statistics were made up to the twentieth year, and included 80 per cent. of all patients admitted at Sonyea up to the time when the figures were compiled. In more than 14 per cent. of these cases epilepsy occurred in the first year. After that the percentage lessened up to the end of the fifth year, which included only about one-fifth as many as the first year. Through the next three years, corresponding to the second dentition period, there was a marked rise in the percentage, and following that period the number again dropped.

The second chart similarly compared the months of the first year, with the result that a marked rise was evident corresponding with the beginning of the first dentition period.

The third chart, compiled from 3523 cases which had developed epilepsy before the twentieth year, showed 376 in the first year, these being due in the opinion of the author to congenital causes, heredity, accidents at birth, and the first dentition. The percentage then decreased until the end of the seventh year, increased through the eighth, fluctuated through the ninth, tenth and eleventh, and again began to increase with the occurrence of the period of puberty, 877 of the cases noted occurring within the four years of this epoch. After this the number rapidly decreased, and less than one-fifth of all cases of epilepsy develop after the twentieth year.

Dr. A. Jacobi agreed with Dr. Spratling that the frequent convulsions of infancy should be looked upon as serious. He preferred, however, not to emphasize the idea that the convulsions leading to epilepsy were dentition convulsions, but to refer to them as convulsions which occur for various causes during dentition. Teething really begins very early in the life of the fetus, and the teeth are already fully developed in the gums at birth. They usually appear at about the seventh or eighth month, sometimes earlier, sometimes much later. The latter occurrence is not due to the teeth themselves but to the child's general condition, which is also the basis of the convulsions, as in rachitic children, where convulsions are not due to teething but to the abnormal condition of the meninges of the brain. A normal child would not be expected to have convulsions during the dentition period. The occurrence of so many convulsions during the first year of life was curious, since the reflex activity of the new-born was almost entirely lacking. At that time the convulsions were of cerebral instead of reflex origin, and often due to hemorrhages, which are not uncommon in the new-born, owing to the friable nature of their blood vessels. Mild sepsis might also be a cause. Epilepsy and paralysis might result from premature ossification of the sutures of the bones of the skull. Dr. Spratling, while emphasizing dentition in the causation of epilepsy, had not mentioned such important factors as improper diet, etc. Dr. Jacobi had lately seen a child suffering from convulsions who was teething, to be sure, but had also been given frankfurters and sauerkraut to eat. One convulsion from any cause might produce hemiplegia and epilepsy. Most of Dr. Spratling's cases were the children of drunkards, in some instances both parents being drunkards and not infrequently the ancestors for several generations. Each case should be judged upon its own history. Teething could not be looked upon as generally or even frequently the cause. The normal child does not suffer in teething except possibly from a slight salivation or diarrhea. Local changes of the brain were the cause of most cases of the epilepsy developing in childhood. Dr. Charles G. Kerley agreed with Dr. Jacobi, and further noted that Dr. Spratling's charts showed a marked decrease of cases developing in the second year notwithstanding that this is the most difficult portion of the first dentition period when the canines and molars appear.

Dr. Floyd M. Crandall said that two questions were suggested by the paper, namely, whether dentition produced convulsions or not, and also whether these early convulsions developed into true epilepsy. Personally he could not believe that convulsions could result from teething in a healthy child. In children suffering from rickets, bad digestion, bad heredity, etc., dentition might prove the straw that broke the camel's back, and convulsions appear at the dentition period. He agreed that the convulsions of infancy should never be considered benign, and children who showed that tendency should be carefully guarded from everything that might aggravate it.

Dr. Spratling, in closing, remarked that he had not attempted to prove the influence of dentition upon the development of epilepsy, but merely to present facts and figures. Many other factors were doubtless operative in the cases he reported. He knew that teething began in embryonic life, but it became troublesome only upon the appearance of the teeth through the gums. His list did not have to do with normal children, but with those of a run-down condition or of bad heredity, the sort who develop convulsions and may in the end suffer from epilepsy.

SEQUELÆ OF CEREBROSPINAL MENINGITIS.—This discussion was opened by Dr. Henry D. Chapin, who said that in a certain proportion of the cases under his observation during the present epidemic (eighteen or twenty in all) neuroretinitis had developed. He had mentioned this fact last spring when he presented a number of these cases before the New York County Medical Society, and one of the ophthalmologists present at that time had said that this feature of the disease was extremely unusual. Since then Dr. Chapin had paid especial attention to the eyes in cerebrospinal meningitis, and was now observing the case of a child aged four months, in which a marked neuroretinitis was present on the right side and a slight one on the left. The examination was made by Dr. A. E. Davis, who seemed to be of the opinion that this occurrence of neuroretinitis was peculiar to the present epidemic.

Dr. L. Emmett Holt said that in his experience cases in children less than three years old were generally fatal. He mentioned, however, two notable cases of recovery. In one, a male four years of age, the patient was taken suddenly ill and became unconscious, blind and deaf, with a continuous temperature for ten weeks. He then gradually regained consciousness and improved more and more rapidly, until at present, barring a slight irritability, he is as well as ever. Dr. Holt expressed the conviction that drug treatment was entirely unavailing. In the cases alluded to potassium iodid had been used until it disturbed the stomach. Inunctions of mercury had been employed, and hypodermic injections of morphin to relieve pain. Careful and unremitting attention to the patient's nutrition, however, was what seemed to have saved his life. The pulse, throughout the ten weeks of temperature, ranged from 130 to 150. Upon the return of normal temperature it suddenly fell, and for a few days ranged between 48 and 60. In the second case the temperature continued for twelve weeks, the patient being unconscious most of that time. The complete, although gradual, recovery in this instance as in the other was plainly due to the care of nutrition. There was extreme emaciation in both cases and death from exhaustion would probably have resulted had this care been omitted. In a third case mentioned by Dr. Holt a secondary hydrocephalus had developed, the head being two and a half inches larger than normal for the child's age. The symptoms pointed to a persistent basilar exudate. Dr. Holt had seen the eruption several times early in the course of the disease; in one case it was so intense as to suggest the diagnosis of measles.

Dr. Jacobi said that in the present epidemic he had seen some eighteen cases of cerebrospinal meningitis, with a death rate lower than he had expected, between 30 and 40 per cent. In a few cases he had seen the eruption. Deafness seemed to occur with unusual frequency, three of the eight or nine cases in his ward becoming hopelessly deaf. He could not say why the eyes and ears were not more frequently affected, since in almost every case the nasal mucous showed an almost pure culture of the meningococcus, and opportunity for dissemination of the germs was not lacking. In the present epidemic the nasal involvment was prominent.

Dr. La Fetra said that in view of the fact that the younger the patients the higher the death rate is, any discussion of the mortality must take the age of the subjects into consideration. During the summer he had seen eighteen cases at the Babies' Hospital and two at the Vanderbilt Clinic, all under three years. In nineteen cases diagnosis was confirmed by lumbar puncture. In fourteen the fluid drawn showed positive growth, in four there was no growth, but pus cells and an excess of fluid under pressure. Necropsy confirmed one case. In 20 per cent. of the cases under examination Dr. Marple discovered a neuroretinitis. Eleven of the twenty cases were boys and nine girls. Eight were between three months and a year old, seven between one and two years, four between two and three years. The patients were brought to the hospital at from two days to three months after the development of the disease. In ten vomiting was reported, generally with convulsions. Fever and convulsions occurred in eight cases. In six the disease had begun with cough. The temperature was from 102° to 106° F., varying with the stage of the disease, occasionally remaining normal for some time, and then rising again. In sixteen cases the neck was rigid. Depression of the fontanel was noted in two cases. Tàche cerébral was noted in sixteen cases.

Thirteen showed an irregular pulse at some time, seven being regular. In one instance, a patient three years old, the pulse was irregular and slow. In all cases the rhythm and force were remarkably regular most of the time. Respiration of the Cheyne-Stokes type was found in one case, regular in thirteen and irregular in six. All cases showed apathy and irritability. Sixteen cases showed Kernig's sign at some stage, whereas in four, three of which died, it never appeared. In one case Babinski's sign was observed. No record was made of Macewen's sign. Three cases showed petechiæ, and one, seven months old, bilateral herpes. Twelve cases showed opisthotonus, four tremor. In all wasting or marasmus was marked and distressing. The earliest case was recorded as beginning in January, twelve began between April 1 and May 30. Sixteen cases proved fatal, two were cured after an illness of three months and six weeks respectively. One case developed a chronic hydrocephalus.

Dr. Northrup described a case which terminated fatally after a course of 135 days. The patient was a girl of fourteen years, athletic and robust. Eruption on the lips was marked and emaciation extreme. Every effort was made to increase her ability to assimilate food, but to no purpose, and death resulted from exhaustion. During the epidemic ten cases had come under Dr. Northrup's observation in private practice. eight resulting fatally, two recovering after an illness of five and six weeks respectively. One case seen at the hospital recovered from the disease, but remained deaf, blind and idiotic. The recent epidemic had been characterized by extreme variability.

Dr. William L. Stowell said he had observed eight cases, one of which recovered with an endocarditis which began about the third week of illness and continued eleven weeks, the patient eventually making a complete recovery. Six cases terminated fatally, one dying in convulsions after six weeks' illness, during which a choroiditis developed. One patient made an uneventful recovery. Some years ago Dr. Stowell had observed a case in which total blindness was apparent, but the atrophy of the optic nerve was evidently not complete, as sight had gradually returned, although the patient's mental condition was much impaired.

Dr. W. M. Leszynsky had seen more than thirty cases during the epidemic, and noted, as had Dr. Northrup, an extreme variability in their symptoms. One case, a male of ten years, showed no rigidity, no abnormality of the reflexes, and merely remained in a state of semiconsciousness, being able to answer questions from time to time. Diagnosis was made by lumbar puncture. The pulse was slow, the temperature below normal. The patient died after about four days. Another case, also terminating fatally, developed a corneal lesion resulting in perforation and the loss of the eye. The patient, a girl, was so emaciated that the skin ulcerated over the protruding bones of the pelvis. Dr. Leszynsky had found optic neuritis in but few instances, although ophthalmoscopic examination had been made in routine. Several cases had recovered entirely after a bad prognosis. He had seen no fulminant cases.

Dr. Northrup said he had seen one case of that type, in which the patient was a raving maniac for twenty hours after the onset of the disease, which then terminated fatally. In another the patient died after fourteen hours.

Dr. Frank Fielder had seen a patient like the one mentioned by Dr. Holt, in which a secondary hydrocephalus with basilar exudate developed. The patient was taken ill early in May, supposedly with pneumonia, which later merged into cerebrospinal meningitis. The child was brought to the Post Graduate Hospital on June 1 in an unconscious condition, with an irregular temperature fluctuating between 106° F. and normal. Diarrhea and gastric irritabilty were present. Later Klebs-Löffler bacilli were found in the nose and throat, and the child was transferred to the Willard Parker Hospital. For some thirty-five days the patient remained unconscious, with marked retraction of the head and nystagmus. The muscles of the arms were contracted, and the hands and feet flexed. Afterward the case was transferred to Bellevue, where some lucid intervals were now observed. Lumbar puncture, done several times at the Post Graduate Hospital, showed clear fluid four times, turbid and bloody once, but never a positive identification of the meningococcus. A puncture made at Bellevue about September 15 revealed meningococcus. The case is believed to be one of chronic basilar meningitis.

Dr. Henry Heiman spoke of several patients who had been observed in Dr. Koplik's wards. In one, after sixty days, symptoms of hydrocephalus with pronounced opisthotonus developed. Repeated lumbar punctures were continued, gradually increasing the amount of fluid drawn off, until 175 c.c. were taken. Fluctuating temperatures were the rule. One patient, a male sixteen years old, displayed the fulminating type of the disease, and lumbar punctures gave a purulent fluid, containing meningococcus. Subsequent recovery was complete.

PHILADELPHIA PEDIATRIC SOCIETY

October 11, 1904.

D. J. H. Jopson, *President.*

Stenosis of Larynx Following Typhoid Fever.—This case was presented by Dr. George B. Wood. Dr. Jopson had seen the patient in August, and introduced a tube into the larynx, a process performed with difficulty, although the tube chosen was much smaller than normally demanded by a child of that age. The absence of any obstruction below the tube was evident from the fact that the child breathed through it. It seemed advisable not to allow the tube to remain, but to try gradual dilatation subsequently doing away with the tracheotomy tube. One week afterward, however, it was discovered that the larynx would not receive even the smallest intubation tube without the use of an anesthetic, and this was put off until later. Intubation might be contra-indicated by much granulation tissue and active ulceration of the larynx. The pathologic condition in this case was different from that following diphtheretic involvement of the mucous membrane of the larynx, since the space between the cords is filled up with granulation tissue, interfering with gradual dilatation by intubation tubes, a process proven better than thyroidotomy in diphtheritic stenosis. He could not say whether this granulation was likely to disappear of itself.

Dr. H. M. Fussell had seen two patients suffering from typhoid fever in which perichondritis had developed, both males, one thirty, the other seventeen years old. In the elder of the two it began as a simple hoarseness during convalescence from the fever, and excited no apprehension until stenosis and severe cyanosis followed. Operation was refused and death ensued. Dr. Fussell presented a photograph, showing that the autopsy revealed complete necrosis of the cricoid cartilage. In the younger patient hoarseness developed on the fortieth day of a severe attack of typhoid, and the boy narrowly escaped death by reason of the suddenness of the onset of stenosis and impossibility of securing a surgeon promptly. Dr. A. C. Wood performed a tracheotomy, the tube being withdrawn after six months, and slight stenosis only being apparent thereafter.

"Surgical Complications of Typhoid Fever," by Dr. Keen, gives statistics indicating that stenosis of the larynx occurs chiefly in males, and with comparative rarity before the fifteenth year.

It usually develops late in the disease or well on in convalescence, and there is great danger that the slight hoarseness be overlooked. Mortality is very high, but chiefly through lack of prompt surgical aid, and could be much reduced if the appearance of the hoarseness were the signal for making preparations for a tracheotomy in case of severe stenosis.

ENLARGED TUBERCULOUS BRONCHIAL LYMPH NODES, CAUSING PECULIAR PRESSURE SYMPTOMS.—This case was reported by Dr. T. S. Westcott, who had observed it in a child who died when four months old. The autopsy showed that one of the bronchial nodes was completely softened, the size of a pigeon's egg and pressing upon the descending vena cava. For two weeks before death, if the infant was so placed that the dorsal segment of the spinal column was concaved a pronounced cyanosis of the head, neck and arms resulted. Miliary tubercles were found studding the lungs, and several in the spleen. Bronchopneumonia of the right upper lobe was the immediate cause of death. The child's birth took place in a private room of a hospital where a case of advanced pulmonary tuberculosis was in progress in a room on the opposite side of the corridor. That the infection occurred not long after birth is evident from the early appearance of the disease (the first signs of ill-health being noted when the child was two months old), and by its advanced stage in the bronchial lymph nodes, while an intrauterine origin is rendered unlikely by the facts of the family history. There was some slight evidence of a tendency to tuberculosis in the mother's family, but both she and the father were in excellent health. The child had also been well for the first two months, and had been breast fed entirely. Dr. Westcott was inclined to believe in infection from the patient in the opposite room, either through the medium of nurses or air.

Dr. Willson noted that the conditions under which the cyanosis occurred were contrary to those usually noted in adults, where a recumbent position seemed to produce or increase the cyanosis. Dr. Willson was inclined to believe the infection of intrauterine origin, in view of the fact that the child's grandparents had had tuberculosis, that rickets had occurred in a brother and sister, and that another child of the same father and mother suffered from a chronic diarrhea that might be of a tuberculous nature.

Dr. D. J. M. Miller wished to know whether the signs ordinarily given in text books as evidence of enlarged bronchial nodes, such as Eustace Smith's sign, dulness under the sternum, etc. He was answered in the negative, and said that he had seldom found them himself, because the nodes seldom were enlarged enough to produce signs of pressure like those resulting from aneurysms or mediastinal tumors. He had found neither the paroxysmal cough, the manubrial dulness nor the Eustace Smith sign as often as the books implied in examining children with enlarged bronchial lymph nodes. He was inclined to agree with Dr. Westcott's view of the probable source of infection.

Dr. Weber explained that the autopsy showed plainly why the cyanosis resulted from the position described. The nodes were attached to the vena cava on the right side and somewhat behind.

Dr. Westcott repeated and emphasized his reasons for thinking that the patient in the opposite room might possibly have been the source of infection, and explained that the diarrhea of the second child, from which it had entirely recovered, was undoubtedly due to a subacute catarrh of the bowel.

TYPHOID FEVER WITH UREMIC ONSET.—Dr. A. Hand, Jr., reported the case of a female child of three years, who came under his observation at the Children's Hospital after being ill for four days. The symptoms present were fever, anorexia, malaise, cough, vomiting and pronounced constipation. For forty-eight hours she had been exceedingly drowsy, and had constantly grown thinner and weaker.

The physical examination gave largely negative results. The pulse was weak and intermittent, and the child's condition plainly toxemic. Examination of the urine showed albumin and many hyalin, granular and epithelial casts. Widal test negative; leukocytosis of 12,560.

Symptomatic treatment was adminstered, with rest in bed, and at the end of fifteen days her condition seemed to be normal. A few days later, however, her temperature was 98.6° F. in the morning and rose five degrees during the day. The next morning it was still higher, and the patient in an unconscious condition, followed by convulsions. Until afternoon the convulsions were controlled by hot baths, morphin and bromide, but as no permanent relief was observable a lumbar puncture was done in the evening, withdrawing 50 c.c. of normal fluid. Prompt cessation of convulsions followed with return of consciousness an hour later. For five days the temperature did not fall below 102° F., then dropped to 99.4° F. in the morning, rising to 100.6° F. in the evening, followed by a febrile stadium of remittant type and increasing severity for ten days. At that time the temperature began to subside and reached the normal point six weeks after the beginning of the disease. During this last period a Widal test gave positive reaction. Recovery was uneventful. Typhoid fever beginning with symptoms of acute nephritis is a type of the disease recognied by the text books and lumbar puncture as a means of relieving such symptoms is equally well established, though of comparatively recent date.

Dr. E. E. Graham said that he was much interested in this case, as he considered it a rare complication of typhoid fever. He said that the acute nephritic condition seemed to be altogether dependent on the typhoid toxemia, and patients recovering from the typhoid generally recovered from the nephritis, although there was a high mortality in cases of acute nephritis complicating typhoid.

Dr. Hand added that the last urinanalysis gave no evidence of nephritis.

Dr. Hand also called attention to a case of urticaria following an attack of diphtheria, in which the attending physician had not employed antitoxin. He wished to show that certain attacks, laid to the door of antitoxin, might occur quite independently of it. Dr. Hand also reported a case of measles, in which the rash first appeared on the legs, spread to the trunk and neck, whereas the face showed only an erythema.

EDITORIAL

INFANTILE CONVULSIONS AND EXCESSIVE FAT-DIET

Year by year new facts pertaining to infant feeding are becoming to be recognized with increasing definiteness. A large number of heretofore inexplicable conditions have been encountered and the snare and delusion of auto-intoxication has done more to cloud their etiology than it has contributed to the understanding of the more precise factors at work.

We are indebted to D. L. Emmett Holt for the taking out of some conditions from this general group of auto-intoxications and for the more definite diagnosis of a distinct type of understandable intoxication as distinguishable from musty haze of an indefinite apellation.

In the Medical News of January 7, 1905, he contributes a short but striking paper on some forms of intoxication due to excessive amounts of fat in the diet of infants.

As he points out, the general practitioner has come to recognize the dangers and the signs of excessive amount of proteid in an infant's diet, and we are all more or less familiar with the excessive fermentations and consequent intestinal disturbances due to excessive amounts of carbohydrate, but up to the present time the digestive disturbances that can follow excessive amounts of fat have not been grasped.

Holt shows that in a number of infants who have been fed for some time on a milk which is particularly rich in cream (5-7 per cent.) or 2-3 per cent. above the amount of cream present in ordinary milk that an almost typical cycle of symptoms may develop. In many of these cases the child may give the impression of being distinctly well fed. He may be fat and healthy, but suddenly for no apparent reason convulsions accompanied by high temperature develop. In others there may not be the evidence of a healthy growth, but the child develops habitual vomiting and later convulsions.

In these and many other instances the acute and chronic disturbances of digestion, he thinks, have been due largely to high fat perectages in the food, while it has been recognized that gastric disturbances, habitual vomiting, frequent regurgitation of food, continued fermentation, and finally gastric catarrh may follow the excessive use of fats; it is worth while to recognize the fact that severe nervous disturbances, such as convulsions, may result from a diet over rich in fats.

Laboratory feeding has frequently erred in this respect and Dr. Holt deems it sufficient to call attention to this fondness on the part of the physician for the rich Jersey milk as something to be carefully corrected if serious results are to be avoided.

In all of the patients reported on, regulation of the diet, particularly with reference to the fat, and thorough intestinal hygiene has brought about happy results.

PHYSICAL EDUCATION AS AN INVESTMENT

The universal interest in popular education and the excellent and widespread methods to popularize educational ideals in the United States were prominent facts that were widely commented on by the recent Mosely Commission on Education. As is well known, they came to study the educational methods here in vogue, and while they found that some were not by any means ideal, the Commission was unanimous in their approval of the aims, if not always the means, of the educators of the masses of our children.

Much has been done, but there is still a great deal more to do, and that particularly in the line of sanitary education. The "stick out your tongue" and "show your back hair and scalp" routine of the sanitary school inspectors is of immense value, but comparatively few cities in the United States have their school inspectors, whose duty it is to exclude contagious diseases from the schools. They all should have them, and the taxpayer will find it money well invested. Fewer policemen and more teachers skilled in sanitary science is the line of construction.

It is the duty of the members of our profession in the various communities throughout this country to inaugurate methods of physical education for the growing youth and maiden. Health is a better asset than bookish information, and we can show the taxpayer, if we take the trouble, that money spent in the sanitation of our schools and in healthy physical education exercises is a good investment.

ABSTRACTS

Poisoning in an Infant from a Carbolic Dressing.—Louis E. Stevenson, B.A., M.B., B.C. (Lancet, May 7, p. 1279).—An infant, aged six weeks, was circumcised on March 10. The wound was dressed with lint soaked in carbolic oil (1 in 20). Early next morning he vomited. During the afternoon the napkins were stained a dark color. The carbolic dressing was discontinued. On March 12 he was rather restless. The appetite was poor, and the urine was scanty and dark-colored. There were two motions, one of which was dark. Towards evening the urine was more free and the appetite was better. He had a very restless night. On the 13th the motions were normal. The eyes had a glassy appearance, with the eyelids somewhat injected. He was pallid, but had a fairly good appetite. There were twitchings in the limbs at intervals all day. He slept better at night. On the 14th the symptoms continued. At 6 p.m. there were rose-colored patches on the chest and abdomen. He slept well. On the 15th the rash was very thick over the chest and abdomen. At 9 a.m. the child became extremely pallid, with feeble pulse. He was ordered brandy, 5 drops every 2 hours. There was a second fainting attack about 11 a.m. The appetite was good. At 6 p.m. the rash was disappearing, but a slight rash developed on the back. On the 16th the rash was thick on the back and slight on the hips, neck, and face. The pallor was still marked. On the 17th the rash had almost disappeared. The conjunctival injection and the glassy appearance of the eyes were rapidly disappearing. The writer has used the 1 in 20 carbolic oil in many cases of circumcision and has never known a case of poisoning before.

Itching.—Itching may be due to one of a variety of causes. Excluding the parasitic affections the prominent causes are intoxications, either autogenous or exogenous, as diabetes, jaundice, etc.; certain nervous affections; and very commonly some cutaneous disease. Pruritus may also be due to senility. The constitutional treatment must, of course, vary with the etiology. In the relief of the itching itself, however, aside from the treatment of the underlying condition, certain remedies offer some promise of relief. The patient should remain in a room as far as possible of uniform temperature; frequently the envelopment of the part with cotton, or damp bandages, exercises a very beneficial effect. The following applications are recommended:

℞ Zinc oxide	
Talcum	
Glycerine	
Water	of each ʒvi

Or this ointment:

℞ Ichthyol	gr. xxx
Bismuth subnitrate	gr. xxx
White precipitate	gr. xxx
Vaseline	ʒv

Menthol in the form of a 2 per cent. alcoholic solution is frequently very valuable.

Other prescriptions recommended are:

℞ Menthol	
Chloral	
Camphor	aa gr. i
Vaseline	ʒss

℞ Naphtol	ʒii ss
Ether	q. s.
Menthol	gr. x
Vaseline	ʒvi

℞ Salicylic acid	gr. xv
Tumenol	gr. lxxv
Zinc oxide	ʒiij
Amidon	ʒiij
Vaseline	ʒvi

—*Journal des Practiciens.*

Bronchial Asthma in Infants and Children.—La Fétra, in *Archives of Ped.*, states that the great majority of the asthmatic attacks are due to bronchial spasm, therefore the treatment should point toward relaxing them. He recommends medication by inhalation as of first importance. In infants where the attacks so closely resemble capillary bronchitis, he recommends steam impregnated with creosote, twenty drops (1.30) to a pint of water boiling in a croup kettle, which in most cases relaxes the spasmodic condition. In older children the niter paper, with or without stramonium, is useful. When the spasm becomes intense and marked dyspnea is present, chloroform inhalations are indicated.

As soon as the infant can swallow, the following may be given to relieve the symptoms:

℞.	Antimonii et potass. tartratis..	gr. 1/100	0006
	Pulv. ipecacuanhæ............	gr. 1/20	003
	Nitroglycerini	gr. 1/100-1/50	0006-.0012

M. Fiat chartula No. i. Sig.: At one dose, to be repeated every half-hour for three doses, or until relief is procured.

[We should hesitate in advising such large doses of nitroglycerin, repeated so often.]

The author has also derived great benefit from the administration of atropin in doses of grain 1/2000 every two hours until the face flushes. A child of two or three years can take, as a rule, two or three of the above doses before this symptom appears. After the attack has passed off the atropin should be given two or three times a day. If the stomach shows disturbances it should be emptied by a dose of syrup of ipecac. In cases of long standing the following mixture is recommended:

℞.	Potassii iodidi....................	gr. xx	1	30
	Morph. sulphatis.................	gr. 1/3		02
	Tinct. belladonnæ.................	m. xx	1	30
	Spiritus etheris comp................	ʒiii	12	
	Aquæ q. s. ad.......................	℥ii	60	

M. Sig.: One teaspoonful every three or four hours.

Acetonuria and Death after Anesthesia.—E. G. Brackett, M.D., J. S. Stone, M.D. and H. C. Low, M.D. (Boston Med. and Surg. Jour., July 7).—A series of cases was observed at the Children's Hospital, Boston, in which death occurred in peculiar circumstances.

On October 6, 1903, a boy, aged ten, suffering from infantile paralysis, but otherwise apparently healthy, was admitted. Four days later he began to vomit persistently light green fluid. The bowels had acted freely and the abdomen was soft and distended. The pulse became very weak and rose from 90 to 150 and the temperature rose to 105.8°. He became unconscious and died twenty hours after the onset of the symptoms.

On the same day a girl, aged eight, was admitted, also suffering from infantile paralysis. She seemed delicate but otherwise was in sound health. Several times in the preceding year she had had attacks of persistent vomiting with collapse. Four days after admission three tendon transplantations were done under ether. The operation lasted one and one-half hours and was not severe or attended by hemorrhage. The child took the ether badly and during the operation had a rapid pulse. Twelve hours after recovering from the anesthetic she seemed in fair condition. Then persistent vomiting suddenly began. The pulse became weak and rose to 190 and the temperature rose to 106°. The vomiting lasted about thirty hours. She gradually sank into a delirious stupor and died forty-two hours after operation.

On November 17 a girl, aged five years and six months, with extensive infantile paralysis, had the fascia on the upper and outer part of both thighs divided. She recovered well and was comfortable up to thirteen hours after the operation. Then she began to vomit. Twenty-four hours after operation the face became cyanotic, the extremities cold, the pulse weak and rapid, and the expression anxious. She gradually became comatose and died forty-eight hours after operation. A peculiar sweet odor from the breath led to examination of the urine for acetone and diacetic acid, which were found.

On December 17 two girls, aged six and eight respectively, with extensive female paralysis, were admitted. One began to vomit after six hours and the other after fifteen hours. Both became stupid; there was an odor of acetone from the breath and the urine contained acetone and diacetic acid. Both recovered.

On December 26 a girl, aged four, was admitted. For six days she had been vomiting and the bowels had not acted. The odor of acetone in the breath was very strong and acetone was found in the urine. Intestinal obstruction caused by a Meckel's diverticulum was relieved by operation. After recovering from the operation she became unconscious and died at the end of twenty-six hours.

Subsequently a sweet odor from the breath was noticed in a number of patients after operation, and acetone was found in the urine. In most of them vomiting occurred and some of them showed marked prostration. Only one case was fatal. In the fatal cases the necropsies showed some fatty degeneration of the liver, kidneys, and muscles.

Death and anesthesia with acetonuria has been described. In 1894 Becker reported from the Bonn clinic three fatal cases after operation on diabetic subjects, whose condition previously had not caused any apprehension. Brewer reported a fatal case of acetonuria after operation for appendicitis (Annals of surgery, Oct., 1902). Dr. L. G. Guthrie published a paper on "The Fatal Effects of Chloroform on Children Suffering from a Peculiar Condition of Fatty Liver" (Lancet, July 4, 1903, p. 10). The symptoms resemble those of the cases now described. He thought that death was due to auto-intoxication brought about by the fatty condition of the liver, the shock of the operation, and the chloroform.

Acid auto-intoxication, apart from diabetes, has been described. After anesthesia in healthy persons Becker found a distinct amount of acetone in the urine. But in one of the fatal cases now reported and in some of the milder ones the symptoms occurred without operation or anesthesia. The writer suggests that the effects on the nervous system of admission to hospital—home-sickness, dread of operation, and so on—have disturbed the metabolism and produced acetonuria. In addition to stimulants, bicarbonate of soda was given to combat the acid intoxicaiton, and seemed to have a beneficial effect.

Two Cases of Infectious Splenic Anemia in Childhood in a Family.—Dr. Pitini (Gazetta Medica Lombarda, March 28, p. 120)—A boy, aged three, came under observation. His sister, aged four, died three years before from anemia, accompanied by enlargement of the liver and spleen. The boy had measles a year before and then began to grow thin and had interrupted fever, which was higher in the evening. The abdomen swelled on the left side and the feet and face were often edematous.

He was very lean and pale. The glands were not enlarged. The gums were swollen and easily bled; the internal surface of the left cheek, opposite the last molar teeth, showed a circular ulcer. The liver was enlarged; the spleen was swollen, hard, and indolent. Blood examination showed 38 per cent. of hemoglobin, 2,225,000 red and 10,500 white blood cells. A virulent diplococcus was isolated from the blood.

Case 2.—His brother, aged eight months, had always been very thin and pale. There were no swollen glands. The liver and spleen were enlarged. Blood examination gave 40 per cent. hemoglobin, 2,500,000 red, and 8000 white blood cells. In both cases the fever ranged from 100.4° to 101.4° in the morning to 102.2° to 103.1° in the evening. The history excluded syphilis; the blood examination, malaria, leukemia, and pernicious anemia. The only diagnosis was therefore splenic anemia. The first child was in a desperate condition. Iron and arsenical treatment proved nearly useless. The second one died from relapsing gastroenteritis.

Gonorrheal Inflammation of the Uterine Appendages in a Girl of Three and a Half Years Detected by Bimanual Examination.—George Carpenter, M.D. (Brit. Jour. of Children's Diseases, Oct., p. 437).—A girl, aged three and a half years, was brought to the Evelina Hospital on November 3, 1898, for a vaginal discharge of six weeks' duration, pains in the lower abdomen, and frequency of micturition. The pus from the vulva contained numerous gonococci. Bimanual examination by the rectum showed on the right side an irregular elastic tumor attached to the uterus at the upper part, and from which it could not be differentiated. Its free extremity was movable. It presented a central depression, and measured 1½ in. or more lengthwise and ¾ in. across. Rolled between the hands there seemed to be an ill-defined cord upon it, which might have been the Fallopian tube, but if it were so it was not enlarged. On the left side the Fallopian tube apparently ended in a fusiform swelling attached to the side of the pelvis about 1¼ in. long and ¼ in. broad, probably the enlarged fimbriated extremity. If it was the ovary, that organ was enlarged. Lying below this body were two rounded masses somewhat movable, one about the size of a small pea and the other of half that. All the parts had rather a woolly and indistinct feel, which was thought to be due to associated pelvic peritonitis.

On December 1 the condition had considerably changed. The left ovary and tube were of normal size. The right tube was decidedly enlarged, and associated with it was a very elastic tumor ½ in. or more in diameter. All parts were freely movable. There was still a purulent discharge from the vagina.

On January 5, 1899, the condition of the ovary and the Fallopian tube on the left side remained unchanged. Considerable improvement had taken place on the right side. The Fallopian tube was but slightly enlarged, and the part associated with it, which might or might not have been the ovary, was also much smaller, but still large. The vaginal discharge was as great as ever.

On April 6 the os uteri was examined with a Fergusson's vaginal speculum especially made for the purpose. There was no discharge from it, but the cervical mucous membrane was reddened, and had lost its sheen. The mucous membrane of the vagina was reddened in patches. At the end of May the discharge was less. She remained under care until December 14, during which time she passed through attacks of whooping-cough, measles, and varicella.

Several cases of localized gonorrheal peritonitis in little girls are recorded, but in none does a bimanual examination appear to have been made. The case shows the value of this method which the writer has long advocated. This case also shows that pelvic disease due to gonorrhea, in some instances, tends to spontaneous recovery, and that without such examinations is likely to be overlooked. Probably there was pelvic peritonitis. There was certainly salpingitis on the right side and probably on the left.

Gonorrheal Salpingitis in a Child.—L. A. Bidwell, F.R.C.S. (Brit. Jour. of Children's Diseases, Oct., p. 435).—A girl, aged six, was seen on June 2, 1902. Her parents had some suspicion that she had been assaulted, and there was superficial ulceration inside the vulva extending toward the urethal orifice. Simple ulceration was diagnosed and an astringent was prescribed. On the 25th there was painful swelling of the right foot. Examination showed redness and edema over the flexor tendon sheath. The temperature was 102°, and the discharge was about the same. Next day, as the temperature was still high, the foot more swollen, and the pain more acute, an incision was made and a clear fluid was let out of the tendon sheath. Further examination revealed pus issuing from the os uteri. On the 28th the discharge was less, but the child complained of abdominal pain. On the 29th the temperature rose to 103° and the abdominal pain was severe. There were rigidity of the right rectus and swelling to the right of the middle line in the hypogastrium, which was very tender but not dull on percussion, and retention of urine. On the 30th the temperature fell to 100°, the discharge was diminished, and the abdominal swelling was less. Nothing was felt per rectum. Mr. W. Watson Cheyne saw the child and agreed in the diagnosis of subsiding gonorrheal salpingitis. The discharge showed gonococci in large numbers. The child seemed to improve for three days, but on July 4 the temperature rose to 102°. On the following day it was 102° and she was in great pain. Per rectum a very tender swelling was felt on the left side of the pelvis. On the 8th the pain was more severe, the abdomen was slightly distended, and the swelling was distinct. Laparotomy was performed. Slightly purulent fluid was found in the peritoneal cavity and flakes of lymph on the intestines. A dense mass was felt on either side of the pelvis and on separating adhesions pus escaped. Both tubes were full of pus and were removed. The pelvis was sponged out and a drainage-tube was inserted. On the 30th the wound was quite healed. The discharge, however, had not ceased and still contained gonococci. On September 17, as the discharge was still coming from the uterus, the organ was curetted under chloroform after dilatation of the os. The discharge ceased within a week. Some months later the child was in perfect health.

Gonorrheal salpingitis is very rare at such an early age; its course appears to be more acute than in adults. The operation was not performed until all hope of cure by other means had been abandoned. The ovaries were left in the hope of avoiding future arrest in the development of the child. It is interesting that the discharge did not stop after salpingectomy, but persisted until the uterus was curetted. The lesson of the case seems to be that in a case of gonorrheal vaginal discharge, the patient should be anesthetized, and if the discharge comes from the uterus the os should be dilated and the uterus curetted. In this way extension to the tubes should be prevented. The inflammation of the tendon-sheath was undoubtedly gonorrheal.

Acute Catarrhal Otitis Media.—DR. L. A. MCCLELLAND (Brooklyn Med. Jour.) says that in the early stages of otitis media there are two immediate cosiderations, viz., to relieve the pain and abort further involvement. This may frequently be accomplished by thorough cleansing of the nose and post-nasal space, preferably with cotton on probe; then the application of 1-10,000 adrenalin chloride solution on cotton, when the cleanness and patency of the naso-pharyngeal entrance will enhance the chance of re-establishing the intra-tubal and tympanic pressure by nature, or by the aid of the Politzer bag. Liberal flushings of the canal with water of 110° to 120°, delivered in a constant stream from the ordinary fountain syringe, using the smallest tip, which should be placed on the floor of the canal but not pushed into it, will prove of much service in relieving the prevailing condition in mild cases. The author believes that this simple procedure is not practiced at sufficiently regular and short intervals by many, who fail of the object in consequence. Half hourly intervals between the two-quart irrigations is often indicated. Leeches to the tragus will often dissipate the agony of a suffering child so promptly that sleep will follow forthwith. A dressing to the ear may be found most comfortable, and his preference is a large wad of warmed absorbent cotton packed loosely about it. A hot foot-bath and cathartic are often beneficial. Occasionally a hypodermic of morphine may be necessary.

Failing to abort the affection, sterilize the canal and incise the membrani tympani while the patient is under the influence of either nitrous oxide gas, ether, chloroform, or a local anesthetic; *e. g.*, alcohol, carbolic acid, and cocaine (saturated solution), equal parts. After operating irrigate the canal with sterile warm saline solution or Thiersch's solution.

The common practice of insufflating boric acid into the canal may be fraught with danger, owing to its tendency to cake and occlude the canal, thus interfering with drainage. Protect the tympanum from further infection by carefully dressing the canal with sterile gauze or cotton, being diligent in its frequent removal. Cleanse and redress very often, always remembering to dry the canal after irrigation. Follow up with inflation if this is indicated.

Fluoroform in Pertussis.—DR. STEPP, of Nuremburg (Therap. Monatsch., Nov., 1904), reports in detail twenty-two cases of whooping-cough which he treated with fluoroform. The results have been so uniformly satisfactory that it is very probable, according to the author, that the drug exerts a specific action on the pertussis toxin. The remedy itself, given in the form of fluoroform water (2 to 2½ per cent. solution), is odorless, tasteless, and absolutely non-poisonous. The dose, even for the smallest children, is a teaspoonful every hour. For older children, a tablespoonful.

Hemorrhoids in Infants.—J. COMBY (Archives de Médecine des Enfants, November, 1904), says: "Hemorrhoids are not rare in infants, if systemic examinations are made. A few congenital cases have been noted. The writer gives a clinical history of five cases from two to five years of age. Anal hemorrhage frequently directs attention to this condition. The symptom is often associated with internal hemorrhoids, not accompanied by pain; the condition of the rectum can be ascertained only by a rectal examination. External hemorrhoids also occur in very young children, but they present no difficulty from the standpoint of diagnosis. As a rule, the lesion is well tolerated in children, and the prognosis is good in the absence of complications. Spontaneous recovery is rare, most cases requiring operation. As palliatives, astringents may be used in the form of suppositories. For the relief of hemorrhage adrenalin may be employed."

Acute Articular Rheumatism in Children.—A. Baginsky (Berl. klin. Woch., Nov. 28, 1904) has never found the blood essentially abnormal in this condition. The anemic appearance is probably due to the lessened blood pressure and the smaller amount of blood in the vessels. He protests against the dumping of chorea in the general receptacle for infections affections—there are probably two main groups, the rheumatic and the nervous choreas. In 64 cases of chorea he found only 20 in which there were any rheumatic antecedents. Aside from chorea, nervous manifestations were rare in his experience with rheumatism, except that cerebrospinal meningitis was sometimes associated. The distinguishing feature of acute articular rheumatism in children is the early and almost inevitable involvement of the heart. All except 7 of the 76 cases in his experience presented evidences of lively irritation or inflammation in the heart. In 17 cases there was apparently complete restitution of the heart but in 41 others some cardiac defect developed sooner or later. The proportion of cases with intact heart was 12 per cent.; of complete recovery, 23 per cent.; of permanent heart defects, 62 per cent., and of deaths, 9.9 per cent. The post-mortem findings demonstrated that the special and most prominent anatomic reaction of the heart in childhood to the irritation of the rheumatic virus is a fibrinous pericarditis with adhesions, and a tendency of the fibrinous exudated and proliferating products of the inflammation to become transformed into connective tissue, with the heart and pericardium completely grown together. The organism usually manages with this immovably fastened organ until the stress of puberty. Salicylic medication has no effect on the heart complications, either for prevention or cure. He relates experiences with various drugs, including subcutaneous injection of carbolic acid, all to no avail. The only one that seemed to do any good was potassium iodid, from 1 to 3 gm. a day. This seemed to alleviate the symptoms of severe inflammation in cases of pronounced pericarditis and endocarditis. It sometimes had a magical action in reducing the fever, moderating the local inflammation and combating the most dangerous symptoms of the disease. His experience with antistreptococcus serum has been slight and rather unfavorable.

Prevention of Measles and Whooping-Cough.—C. S. Caverly (Am. Med., Dec. 24, 1904) deprecates the tendency on the part of the profession and of the public to view these diseases as harmless. Although the death rate from scarlet fever has been lessened considerably by judicious preventive measures, that from measles and whooping-cough remains unchanged, these diseases causing more deaths than scarlet fever. From their fatalities they are as important as scarlet fever, or diphtheria, or even smallpox. Their prevention presents peculiar difficulties. First, the indifference of the public, shared by the profession. Second, the failure of many patients to see a physician. Third, their contagiousness at a time when they cannot be recognized; and fourth, the variable length of time that they remain virulent. There is not sufficient unanimity among doctors as to the necessity of preventing these diseases. They are difficult of early and certain diagnosis because their early symptoms are common to these and many other less severe and less contagious diseases. The schools offer the best opportunity for their spread. In catarrhal diseases of all kinds affecting the upper air tracts the child should be excluded from the school. The early communicability of measles and whooping-cough should never be overlooked.

Treatment of Lung Diseases in Children.—Dr. C. H. Murphy (Med. Council) cites the following symptoms as characteristic of some forms of lung disease in children ,and then indicates the treatment: A child from infancy to four years of age, with high temperature, quick breathing; rapid pulse, 140 to 160; hot, dry skin in early stage; auscultation reveals moist râles in one or both lungs, or patchy dulness on percussion; the child may attempt to cry, but cuts it short on account of pain; there is a little grunt at the end of expiration; there may be much thirst and restlessness; the patient is agitated and apprehensive, and all signs point to pulmonary hyperemia or congestion.

In the above condition the author recommends, if the pulse is full and rapid, with red streaks down the sides of the tongue and dry, hacking cough:

Tr. Veratri Viridis	gtt. xv
Tr. Bryoniæ	gtt. x
Aquæ, q. s. ad	℥ iv

One dram every hour.

Also:

Ammon. Chloridi	gr. xx
Antimon. et Potass. Tart.	gr ¼ to ½
Aq. ad.	℥ iv

One dram ever hour alternately with above.

If the pulse be small and soft, but rapid, use aconite, 8 drops, in place of veratrum. If the breathing is rattling, or short and panting, dulness on percussion, cough worse at night, some blood raised, he adds spt. phosphorus, 20 drops, to the prescription. If there was nausea and vomiting and râles, coarse and loose, tr. ipecac, 5 drops, may be substituted for the bryonia.

When the disease is ushered in with intense cerebral symptoms. increased nervous condition, threatened convulsions, or a pronounced state of congestion, together with heat of head, redness of face and eyes, with coldness of limbs, drowsy and stupid, tr. belladonna, 5 drops, would be indicated instead of bryonia. Therefore, for a child six to fifteen months old he arranges two glasses: into one of these he puts 8 drops of tr. aconite and 6 drops tr. belladonna. Into the other he puts 10 drops each of tr. bryonia and tr. ipecac. To each glass now add 4 oz. of water. If the condition is mild, a teaspoonful of these should be given alternately every hour. If the temperature reaches 103° and pulse130-160, a half teaspoonful alternately every half hour will act much better. However, if a stimulant expectorant is desired, where there is moist râles and rattling, ammon. chloride or carb. and tartar emetic are added to one of the above, as previously stated.

The author's experience teaches that tartar emetic in very minute doses (¼ to ½ grn. to 4 oz. of water, teaspoonful every hour or two) is a most frequently indicated remedy in bronchitis and pneumonia. The indications for it are plain—cough loose, rattling, difficult breathing, cannot raise the expectoration; seems as if it all but came up.

It should never be forgotten that free movements of the bowels by the use of castor oil will assist the other remedies very much.

Keep the patient in bed in a recumbent position during the whole course of the disease. Young infants should be clad rather more warmly than ordinarily. In older children a hot mustard foot bath is of decided value. The use of steam vapor in the sick-room also helps to relieve the oppressed breathing.

The mustard plaster or turpentine stupe applied to the chest in case of great pain, or where breathing is much embarrassed from hepatization, certainly gives much relief and probably hastens a cure. The compound lobelia powder freely sprinkled over a larded cloth applied over the chest of the infant or small child gives wonderful results. It will allay the cough and often give rest as nothing else can do. It should be renewed every three hours. The second is antiphlogistine or compound clay dressing. It has the decided advantage of not requiring removal until after twelve to twenty-four hours. Thus the child needs seldom to be disturbed, and the hygroscopic action of this preparation assists in reducing the inflammation.

The question of diet is important. Water should be given in abundance. Foods should be given, as in fevers generally, in small quantities at intervals of two or three hours, and should consist of easily assimilable and concentrated nourishment. In most cases milk will prove the best article of diet; still it should never be given raw or boiled, but simply pasteurized, and if necessary, peptonized. In young children, rice with cream, and various gruels may be given. In very debilitated subjects a weak egg-nog or milk punch will combine both stimulation and nourishment.

Treatment of Scabies.—E. W. RUGGLES (Buffalo Medical Journal, December, 1904), in discussing a recent epidemic of scabies, says that the disease is increasing of late years, as shown by the reports of large public clinics and also in private practice of physicians who devote attention to skin diseases. The disease is frequently not recognized, as the typical characteristics are absent. The pruritus which accompanies scabies is often out of all proportion to the discoverable lesions, which in those who bathe frequently are very insignificant, consisting of isolated scratch marks, small papules, with occasionally minute pustules. On close examination some burrows, excoriations, papules, or vesicles will be found in the spaces between the fingers and toes. The burrow rarely has the classical appearance. In the diagnosis it is not easy to isolate the acarus, as it is commonly contained in a drop of blood or the dried secretions.

In the treatment two essentials are to be met: first, to kill the parasites, not only in the skin, but in the clothing and bedding. The case should be followed until it is definitely cured. An efficient and cleanly method is Sherwell's washed sulphur treatment. The patient is rubbed thoroughly with a dry powder after a prolonged hot bath, and in addition the powder is placed on the lower sheet of the bed. Kaposi's ointment, having the following formula:

Naphthol	25 parts
Green soap	50 parts
Creta alba	100 parts
Benzoated lard	100 parts

and Stelwagon's,

Sublimated sulphur, balsam Peru	āā ℥j
Naphthol	ʒ to j
Benzoated lard or ung. petrolati	q. s. ad ℥iv

are among the best prescriptions. Two or three applications will kill the parasites, but the accompanying eczema, which is often aggravated by the treatment, may require time for its cure.

Medical Treatment of Epilepsy.—DR. CHARLES L. DANA, (Publ. Cornell Univ. Med. School, I) after considering the importance to the epileptic of hygienic living, exercise and bathing, proper diet and regular bowels, outlines the medicinal treatment. Our chief reliance is still to be placed in the bromides. The average daily dose for a person above fourteen is 60 grn. Sodium glycerophosphate forms an excellent adjuvant. A good combination is the following:

Solut. Sodii Glycerophosph. (50%)	℥ ij
Sodii Bromidi	℥ iij
Aquæ, q. s., ad	℥ vi

℥ j twice a day in water, in the forenoon and in the afternoon, six days in seven.

As seen, the medicine is given but twice a day, and it is important that one day, or in some cases two days, in the week all bromide medication be stopped. On this day, usually a Sunday, the patient should devote his time to cleansing his alimentary canal. Saturday night he should take a slight laxative (once a month a mercurial). On Sunday he should drink a tumblerful of hot water, containing 30 grn. of sodium bicarbonate, half an hour before each meal. After each meal he should take the following tonic:

Tinct. Ferri Chloridi (1 year old	℥ i
Ac. Sulphurici Dil.	ʒ iv
Glyceriti Pepsini	℥ j
Aquæ	ʒ ij
Ol. Menthæ Pip.	m v

15 to 25 min., well diluted or in capsules, after every meal.

This mixture relieves some of the anemia caused by the bromide, and tones up the digestive organs. In mild cases or those well under control, this "remission" treatment is carried out twice a week, Wednesdays and Sundays.

Usually the above treatment lessens greatly and largely controls the attacks. Sometimes it is necessary to give one-half, or even a whole dose of the bromide-phosphate mixture in addition at noon; sometimes an extra dose is given on Saturdays.

The medication must be increased as the patient improves. Epileptic crises usually occur if the disease runs a natural course two or three times a month, often several attacks occurring together. If these attacks are suppressed for three months and the patient begins to feel secure, he should, in the fourth month, have the doses increased 25 per cent. Then they can be dropped to the former average and again increased. The better and the more secure the patient feels the more stringent should be the watch and the larger the dose. For we must secure what we have gained or start all over again. After a year's remission it is especially important to increase the medication and the general care of the patient and for two months he must be kept under the strictest surveillance. Then the regimen can be relaxed for a half year, but again and again the patient must be held up with a close rein. In this way alone can we save him. We feel some relief after fourteen months, some security after two years, and finally strong confidence after three years. Much can be done with the epileptic if he is intelligent and coöperates with the physician; or oftener if the mother is patient and watchful—and to such, if the child is not a backward degenerate and has not been wasting too many years in haphazard work, one can promise much.

This treatment consists then: (1) In short, violent exercise that works and hardens the muscles, stimulates the liver, and opens the pores of the skin. (2) A regular system of stomach-washing, so to speak, with laxatives regularly given to unload the bowel of toxins and excess of fecal matter. (3) Regular cold bathing to stimulate the vasomotor system, and a regular series of full hot baths and sweat baths to unload the skin. (4) Administration of bromides in maximum doses but given with regular intermissions, so as to rest the stomach and allow its keeping in good condition. (5) Associating the bromides with glycerophosphates, and often iron, to combat the depressing effect of bromides and its tendency to impoverish the blood. (6) Increase of medicine as the patient gets better.

The Rationale of Intestinal Antisepsis.—H. B. Hollen (Medicine, Jan., 1905) says that the summer diarrheas of infants occupy a large place in the sphere of intestinal asepsis. In dealing with these conditions the following make up the round of treatment: (*a*) withdrawal of milk and the substitution of thin broths, albumen and cereal waters, or other liquid feedings; (*b*) colon irrigation; (*c*) gastric lavage; (*d*) initial purge of calomel or castor oil; (*e*)administration of an internal antiseptic; (*f*) astringent drugs in selected cases; (*g*) tonic medication. There is some marked difference of opinion relative to the length of time milk diet should be withheld. Morse says that, in view of the relatively low nutritive value of the various food substitutes, milk feedings should be resumed in a few days, irrespective of the condition of the stools or without waiting for marked improvement. It is probably advisable however, to discontinue the use of milk until more or less well-defined change for the better occurs; in the majority of cases sufficient nourishment can be derived by the patient from some of the prepared nutrients until such favorable change supervenes. The question of nutrition is, after all, secondary to the correction of the intestinal and gastric infection.

A great deal has been written about infant alimentation, much of which may be said to be of little practical value. Suffice it to say here that the patient may be nourished by means of barley, rice, or arrowroot water; with albumen water, meat broths, or beef juice. Nutritive liquid peptone is a good preparation with which to sustain the sufferer; in it extract of malt and predigested beef are skilfully combined. These nutrients are also obtainable in combination with creosote, and in this form is found a valuable medicament for summer complaint and similar affections in which creosote is of service. The ordinary diet of health is to be resumed gradually, beginning with milk wheys (which may be made from whole or skim milk) or a modified milk prepared from fresh milk, highly alkaline and pasteurized. As the patient progresses the percentage of the individual milk ingredients may be increased.

Colonic irrigation is a useful procedure in cholera infantum. An aqueous solution of acetozone, 1:3000, is suitable for this purpose and will yield good results. Zinc sulphocarbolate (five grains dissolved in two ounces of water) is also of great service. The same solutions may be employed for lavage, which is a therapeutic measure not often enough resorted to. Washing out the stomach at frequent intervals is productive of incalculable good, and treatment which omits it is to be considered incomplete. In performing lavage the irrigating fluid should invariably be lukewarm, and is best introduced in the morning on an empty stomach. Its continuance must be based on the character of the washings. The two drugs most suitable for meeting the condition of fermentation and infection present in this disorder are acetozone and zinc sulphocarbolate. In administering the former the regular solution (fifteen grains to the quart) should be diluted with one-half its quantity of water and flavored with lemon or orange juice. In this form it is acceptable; it may be given in tablespoonful doses at frequent intervals with no fear of toxic effects. The good results accruing from the use of this remedy, given orally as well as in the form of enemata, are early and unmistakable. The discoloration and putridity of the stools disappear; the diarrhea is checked; the temperature falls; pain and inflammation subside; the vomiting is controlled, and the anguish and irritability disappear. Copper arsenite is recommended in many quarters as a remedy in summer diarrhea, enterocolitis and dysentery, and in many cases seems to meet the conditions attendant upon these disorders. It has been found of considerable service employed per rectum (in solutions of five to twenty grains to the ounce) in ulcerative states of the lower bowel. As a tonic indicated especially in long-continued infections strychnine arsenate may be given.

Gastrointestinal catarrh of more or less well-marked chronicity, varying in character from a gastritis to a colitis, yields surprisingly in many instances to antiseptic therapy. In the latter condition Drake recommends the use of acetozone in 1 : 1000 solution to be taken after meals, with daily colonic irrigations. In chronic diarrheas the free ingestion of acetozone solution is recommended by Bennet, who says that he has had exceptional results following its use. In many cases of so-called "dyspepsia" the drug is efficient even after the failure of pepsin, hydrochloric acid and pancreatin to produce results. Sodium and phenyl salicylates have been found to act well when used for sarcinous vomiting and in certain cases of chronic dyspepsia with decomposition. When the analyses of gastric contents reveal the lack of hydrochloric acid, that agent should be supplied on the ground that putrefactive changes in the intestines are often due to its absence. As pointed out by Vaughan, "the only digestive secretion which is known to have any germicidal effect is the gastric juice (hydrochloric acid) ; therefore, if this secretion be impaired there is at least the possibility that the living germ will pass on to the intestines and multiply and will, if it be capable of so doing, elaborate a chemical poison which may be absorbed." When the stomachic symptoms predominate the salicylate or subgallate of bismuth is of service, and lavage with bismuth subnitrate solution may be a useful adjuvant. In this way the pain and vomiting, concurrent with catarrh, may be controlled.

A Case of Multiple Sclerosis Following Whooping-Cough.—Gustavo Minciotti (Gazz. degli osped., October 2, 1904) contributes to the study of multiple sclerosis a rare case of the disease in a child. The etiology is an infections disease, pertussis. In some published cases the interval between the pertussis and the attack of multiple sclerosis was too long to make the connection sure. In the author's case the interval was very brief, and the symptoms of multuple sclerosis appeared before those of the whooping-cough were entirely finished. The clinical history showed change in the speech of the scanning monotonous type, intention tremor, nystagmus, exaggerated reflexes and other symptoms. The diagnosis of neoplasm of the brain was regarded as impossible from the absence of pain, vomiting and other pathognomonic symptoms. Friedreich's disease does not develop earlier than ten years, the nystagmus was inconstant, the reflexes should be lost instead of increased, and the speech changes of Friedreich's disease do not resemble those of multiple sclerosis. The course of multiple sclerosis may be remittent or intermittent, the symptoms may improve or disappear. The tremor varies at different times and in different cases. The gait is distinctly cerebellar, paretic, spastic, the speech disturbance is subject to great variation.

Exophthalmos in the Newly Born.—Ordinary variations in the infant's head, which result from the pressure incident to birth. afford little more than transient interest. When, however, exudations are of such nature as to produce exophthalmos or some such serious lesion, they certainly merit the closest attention. Hugh H. Borland (Lancet, November 12, 1904) recites the history of a case in which the vault of the cranium showed evidence of protracted pressure, presenting a squashed appearance, the frontal and parietal bones being practically at right angles. The labor had not been instrumental. The child's face was pallid, and both eyes were so markedly exophthalmic that the organs protruded like goggles. This was so marked that the sclerotic coat was seen above and below the cornea and the eyelids were unable to meet. There were no ptoses. The pupils were equal and fully dilated. A few hours after birth an effusion of blood under the conjunctiva of the right eye was noticed. Paralysis of the recti followed, but this was confined to the right eye, in which the hemorrhage had been seen. On the third day an ecchymotic patch was observed on the external surface of the right upper lid. On the fifth day the paralysis of the superior rectus became less marked. On the seventh the effusion under the conjunctiva had diminished and did not encroach beyond the upper margin of the cornea. On the ninth day, when the child raised the eyeball, one-third of the cornea was above the level of the inner canthus. On the tenth day the exophthalmos was no longer evident. On the nineteenth day a clot of coagulated blood came down the nostril. Three weeks after birth there was still seen a slight degree of paralysis in the superior rectus. Three years later the child was normal in every respect. The question arises whether the pressure causing this lesion was intra-uterine or not. There was no history of hemophilia. There was absolutely no caput succedaneum, although the labor was moderately long. The mother's pelvis was normal. No instruments, it must be remembered, had been used, and it is difficult to understand how sufficient pressure could have arisen either from the head impinging upon the promontory of the sacrum or upon the pelvic floor. Whatever its origin, the bulk of the pressure had fallen on the right side of the cranium, there being little or no hemorrhage in the left conjunctiva. The discharge of the clot from the right nostril is, perhaps, to be accounted for by the fact that in children there is almost always a communication between the nasal vein and the superior longitudinal sinus in the antrum. Altogether the case was a difficult one to explain. It might arise from extreme hyperemia behind the eyeballs, or possibly from the fact that the child, on being delivered, fell to the floor, the small friable bones of the face having possibly been broken. Damage to the cavernous sinus might possibly be the cause of the trouble, but whether this was due to pressure or to inherent frailty of the blood vessels or to the condition of the blood is indeterminable. The fetal blood in that of the newly born differs in quantity and quality from that of the adult, the young infant having less blood in proportion to the entire body-weight. The author's experiments go to show that infantile blood has a higher specific gravity and higher hemoglobin percentage than the maternal blood, that the coagulation power of infants' blood is, first, very much below that of an adult's blood, and second, that this degree of coagulability is very variable.

A Case of Quadruplets.—It is rare for the human female to give birth to four children at once. Fothergill gives the ratio as one in 387,000. Annie C. Gowdey (Lancet, October, 1904) reports the case of a woman, aged thirty-six years, who, while lifting a heavy weight, felt something "snap" inside her. Typical labor pains developed within a few hours. On admission to the St. Pancras Infirmary she gave the following history: She was pregnant 5½ months and had noticed that she was unusually large; otherwise, she had had no discomfort whatsoever. The physical signs were: The abdomen was greatly distended, the uterus reaching to within three fingerbreadths of the ensiform. The fetal parts were not satisfactorily palpable. The os was dilated and the cord prolapsed. The pains subsided, and the next day a hand prolapsed and could not be returned. The child was delivered by the forceps. It weighed one pound, four ounces, and survived thirteen hours. Within the next twenty minutes three other children were expelled. These were all stillborn. The placentæ are described as follows: Two were quite separate; the remaining two had coalescing margins, with separate chorions to each. There was no post-partum hemorrhage, the recovery of the patient being without incident. Two of the presentations were transverse, one was vertex, and the other breech. The presence of the separate chorions, indicating the uniovular development of each child, is interesting, inasmuch as it is the most common mode of development in twin pregnancies, but most unusual in multiple pregnancies.

Trachoma.—A. C. Bardes (Medical Record, Dec. 31, 1904), gives an interesting account of the history of this disease, which was treated even by the ancients by methods in principle like those of to-day. After discussing the means of contagion, the symptomatology and the sequelæ, all of which stamp the affection as one requiring the utmost efforts for its suppression, the author describes his method for expressing the granules under local anæsthesia. The popular prejudice against general anæsthesia in these cases is so great that many parents prefer to have their children treated with the tedious and uncertain astringents, and it was to overcome this difficulty that the author was led to employ cocaine. After an experience with more than a hundred cases by this means, he says that cocaine expressions are without pain, and but few sittings are required in order to affect a cure. Complete local anæsthesia is obtained by rubbing into the conjunctiva a 20-per-cent. solution of cocaine and applying to the lacrymal opening some vaseline, so at to prevent the escape of the alkaloid into the nose. As soon as the lid is insensible to pain it is grasped with an expressing forceps and, with a stripping motion repeatedly executed, the granules are crushed. The operation should be sufficiently energetic to obliterate the granules without causing an undue reaction, otherwise adhesive bands may unite various parts of the bruised conjunctiva, and the contraction of the lids that follows acts precisely like the shortening produced in the cicatrical stage of trachoma. After the squeezing solution a 1-per-cent. solution of silver nitrate or a solution of an organic salt of silver can be rubbed into the conjunctiva, and the patient is instructed to call again as soon as the soreness has left the lids.

The Physiology of Nursing.—In the case of an ideal breast, during the first few minutes of a meal every suck is followed by an act of swallowing, according to J. Süsswein (Arch. f. Kinderheilk, Vol. 40, Nos. 1 and 2). The greater half of the meal is finished in the first five minutes. If the child drinks with many interruptions and if the act of swallowing occurs but seldom, then the breast is unsuitable or insufficient for the child. In judging of the sufficiency of the breast, weighing the child is a still better help than the above observations.

The Value of the Finding of Diphtheria Bacilli in Nurslings.—A thought frequently arises in the mind of the practitioner that perhaps, after all, a case from which a culture has been taken with a positive finding is not one of diphtheria. L. Schaps (Arch f. Kinderheilk, Vol. 40, Nos I and 2) agrees with Ballin that the finding of the bacillus alone gives no assurance that diphtheria is present; that rather the greater emphasis should be placed on the clinical impression. Bacteriology can furnish an aid to the latter. In supporting his contention the author reports his interesting experience in the Infants' Hospital of Dresden. Nine cases of rhinitis simultaneously presented themselves among his charges, and owing to certain repairs that were going on in the hospital, it was impossible to isolate them. There was a serosanguinolent secretion from the nostrils and excoriations from the upper lip. There was no temperature, but all the cultures gave a positive report. From 21 other and normal cases in the hospital, cultures were taken, and some of these also revealed the presence of diphtheria bacilli, although there were absolutely no clinical symptoms of diphtheria. None of the patients at any time had fever, in spite of the positive finding, in one of which the bacilli proved to be virulent on inoculation into animals. No membrane was discovered either in the nose of elsewhere. There were no pharyngeal or laryngeal symptoms, no nephritis, or nervous manifestations. All the cases received antitoxin, but it had no effect upon the rhinitis. The conclusion is that no diphtheria was present. The diphtheria bacilli in the above cases played simply the rôle of relatively harmless saprophytes, which, however, may at times give rise to a genuine diphtheria.

Antenatal Smallpox Infection.—DR. J. F. HODGSON (Lancet, Dec. 3, 1904), reports the following interesting case of smallpox in a child that came under observation in the Halifax Smallpox Hospital. The mother sickened on October 27, 1904, and the eruption of smallpox appeared on the 31st. She was admitted to the hospital on November 1st, and on the 4th, after a normal labor, she gave birth to a full-time child at 1 a.m. Twelve hours afterwards the eruption, which up to this time had been of the moderately severe discrete type, became complicated by subvesicular and circumvesicular hemorrhages. Hematuria was first noticed on the 2d. She died during the evening of the 4th. Although she was stated to have been successfully vaccinated in infancy, there was no evidence of vaccination scars.

The child was vaccinated on the same day, and on the 7th it was seen that all the four insertions had been successful. On the next day the entire skin was covered with a scarlatiniform rash, and the smallpox eruption made it appearance during the evening. Fresh papules continued to come out during the next two days, so that by the 10th the whole body was abundantly and uniformly covered with them. No change was noticed in the papules until the 12th, and then not more than half a dozen about the head had developed into vesicles, while by the 14th certainly not more than one-sixth of all the papules had become vesicular. The rest seemed to undergo no change. Up to this point the temperature had never been high; it reached 100.6° F. on the evening of the 11th, and was normal afterwards. During the morning of the 14th the child had severe convulsions, and later in the day blood was passed with the stools. The vesicles now became purple and the areolæ deep red in color, and death took place at 10:30 a.m. on the 15th. The scarlatiniform rash persisted to the end. The vaccination followed a normal course until the thirteenth day, when the vesicles coalesced, began to extend, and showed no tendency to evolution. Upon this case Dr. Hodgson remarks: The eruption appeared on the child four days after birth—that is, eight days after the appearance of the eruption on the mother and twelve days after the mother began to sicken. As the interval between infection and the appearance of the rash in smallpox is generally twelve days, the child was doubtless infected in utero and at the time when the mother was yet in the incubation stage. The time was too short for the immunity which the mother's attack of smallpox is thought to confer on the child, to have been secured. The variola was also so far advanced that the vaccina could not prevent, but only modify and stay, its progress. The termination showed that the type of the disease was a severe one, yet the vaccination undoubtedly held it in check for a period.

Phosphorus in the Milk.—Only an increased casein-content, according to A. SCHLOSSMANN (Arch. f. Kinderheilk., Vol. 40, Nos. 1 and 2), has the effect of increasing the amount of phosphorus in the milk. The prolongation of lactation, menstruation or fever has no effect on the amount of phosphorus. A part of this is held in organic union in the milk, particularly in casein; the content in other nucleones and in lecithin has not been thoroughly worked out.

Intestinal Tuberculosis in Children.—A type of tuberculosis occurring among the children of coal miners in Germany is described by R. RICHTER (Berl. klin. Woch., Nov. 7, 1904). It affects principally the intestinal lymph glands, and though rarely fatal, may constitute a grave illness. The children become emaciated, pale, suffer from abdominal pain and tenderness around the umbilicus, headache, insomnia and slight rise of temperature in the evening. The cervical and submaxillary glands are frequently swollen. This disease may progress very rapidly for a time and then take on a chronic type, which is more apt to be prolonged in the older children. After the subjective symptoms disappear anemia and general weakness persist for a considerable period. The author describes the disease to be the fact that the local milk supply is of very poor quality and the hygienic conditions are also bad. In view of the fact that Behring states that tuberculous infection in childhood protects against reinfection later in life, it is interesting to note that tuberculosis is very rare among the adult inhabitants of the district.

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PUBLISHERS' ANNOUNCEMENTS

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Pneumonia is nowadays considered a general infectious disease, due to a special germ, and not, as was formerly believed, a local condition, resulting from exposure to cold. It is, therefore, of the utmost importance that once it appears in a household every precaution should be taken to prevent its spread to other members of the family. As the germ is carried through the air this cannot be accomplished by fluid disinfectants; an unirritating and non-poisonous antiseptic, which is sufficiently powerful to destroy the infection and yet can be freely breathed by the patient, is required. There is only one safe and efficient agent of this kind, and that is Vapo-Cresolene. Experiments by a member of the Pathological Department of Yale University have demonstrated its high germicidal power. Its vaapor permeates the air of the sick-room, destroys the infection at its source, and when inhaled by the patient allays cough and irritation in the air-passages, promotes expectoration, and thus aids materially in bringing about recovery.

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